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C O M M I T T E E

ON

TRANSPORT POLICY AND COORDINATION

R E P O R T

ON

THE GOODS ROAD TRANSPORT SURVEY 1959-60

GOVERNMENT OF INDIA

P L A N N I N G C O M M I S S I O N

NEW DELHI

August 1961

August — 1961

Report

on

The Goods Road Transport Survey (1959-60)

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Report

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The Goods Road Transport Survey (1959-60)

I. INTRODUCTION

Aim of the Survey

As the available basic operational data in respect of Goods Road Transport Industry were very inadequate, the Committee on Transport Policy and Co-ordination decided to undertake factual sample surveys on selected routes to study the nature and volume of goods traffic carried by road transport in some detail. The aim of the survey was to make a factual assessment of the extent of competition between railways and road transport on selected sections. The Railway Board suggested the following six routes for the purpose of this survey:-

i) Amritsar-Delhi-Kanpur;
ii) Calcutta-Patna;
iii) Bombay-Bangalore;
iv) Madras-Bangalore;
v) Calcutta-Rajmahal; and
vi) Bombay-Nagpur.

A team of three officers, one each from the Ministry of Transport and Communications, the Ministry of Railways and the Committee, was entrusted with the task of conducting these surveys. The Secretary of the Committee assisted these officers in organising the Surveys. All the six surveys have since been completed. The data pertaining to the first four routes have already been processed mechanically and the results analysed and embodied in this paper. The data in respect of the remaining two routes are being processed at present and wi l be incorporated later.

Method of the Survey

2. The Surveys were conducted in consultation

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with and co-operation of the State Governments concerned. A number of check-posts were set up at important junction points on the survey route. Each survey was conducted round the clock for a week. At each check-post, all the goods vehicles passing the check-post were stopped by the police staff and the data in respect of them recorded by the recording staff in a proforma prescribed for the purpose (copy at Annexure I). A supervisor from the Committee was also posted at each check-post to ensure that the information were recorded correctly. All loaded lorries going to a destination beyond the next check-post were given a label of prescribed digit and shape after checking to avoid its being examined again on the route. The data were also scrutinised and double entries, if any, eliminated. The vehicles moving to a distance of five miles or less were either not counted or eliminated later as these represented traffic of a purely local (intra city) nature. Detailed instructions were issued for the guidance of the recording and supervisory staff. A specimen copy of the Instructions is given at Annexure II.

Types of Vehicles Examined

3. The data were collected in respect of public carriers, private carriers, government department vehicles such as P.W.D. lorries, tractor trailer combinations and delivery vans. Passenger buses, new chassis, unregistered new vehicles and military vehicles were not checked.

Type of Information Collected

4. The information collected in the prescribed proforma at each check-post is basic to a study of the nature and volume of goods traffic carried by

road transport, the type and capacity of vehicles used and the operational aspects. The survey was intended to throw light on the following main points for a vehicle operating on each route selected for the survey:-

i) The type of vehicle (Petrol or Diesel);
ii) The payload or the carrying capacity of the vehicle;
iii) The type of permit held by the vehicle;
iv) Total distance covered by the vehicle and the distance covered on the route under survey; and
v) The commodities carried, the quantity carried and the distance over which they are carried.

5. For purposes of analysis, the commodities carried have been classified into major groups, such as, products of agriculture, provisions, animal and animal products, finished goods, products of mines, products of forests, manufactures and 'all others'. The commodities grouped under each catsogry are given at Annexure III.

Survey on Amritsar-Delhi Route

6. The survey on Amritsar-Delhi-Kanpur route was taken up in two sections, viz., Amritsar-Delhi and Delhi-Kanpur. The Amritsar-Delhi route covering a distance of 275 miles was taken up first for the survey which was conducted round the clock from the 23rd to 30th November, 1959. Eleven checkposts were set up for the purpose of collecting the data. These were located at Amritsar, Jullundur, Phagwara, Ludhiana (2 checkposts), Rajpura, Ambala, Pipli, Karnal, Sonepat and Delhi. Another important place served by this route is Pathankot. The survey on this route was held soon after the commencement of the harvesting season for crops like cotton, rice and maize which are grown in the region through which the survey

route lay. The survey, therefore, revealed substantial movement of these commodities by road. Other important commodities moving by road on this route include fruits and vegetables, oilseeds, sugar and gur, finished goods, textiles, wood and timber, iron and steel and building materials.

Delhi-Kanpur Route

7. The Delhi-Kanpur route which covers a distance of 265 miles was taken up next for survey. The survey on this route was held from the 16th to 23rd December, 1959. Seven checkposts were set up and located at Delhi, Ghaziabad, Bulandshahr, Aligarh, Etah, Bewar and Kanpur. The principal commodities moved by road on this route include foodgrains, fruits and vegetables, oilseeds, cotton, sugar and gur, textiles and building materials.

Calcutta-Patna Route

8. The next survey was conducted on the Calcutta-Patna route from the 5th to 12th January, 1960. The checkposts on this route which covered a distance of 376 miles were located at Baidyabati, Burdwan, Durgapur, Gobindpur, Barhi, Nawadah, Bakhtiarpur and Didarganj (near Patna). This route also serves important towns like Dhanbad, Jharia, Raniganj and Asansol. The region through which this route passes contains mines for important minerals like coal, iron ore and mica. Besides, iron and steel works are located at Jamshedpur, Durgapur and Burnpur. The vehicles checked on the route, therefore, carried mineral ores, iron and steel and finished goods, besides foodgrains, fruits and vegetables and provisions.

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Bombay-Bangalore Route

9. The longest route surveyed was from Bombay to Bangalore, covering a distance of 637 miles. The survey on this route was conducted from the 11th to 18th February, 1960. The checkposts on this route were located at Thana, Panvel, Shirval (near Poona), Satara, Karad, Kolhapur, Belgaum, Hubli, Harihar, Devangiri, Tumkur and Bangalore (Neelamangala). This route passes through a region containing mineral laden belts at Bhadravati, Hospet, Shimoga and Bellary. The location of oil refineries near Bombay and of textile mills both at Bombay and Bangalore is noteworthy. The important commodities moved by road on this route, therefore, include mineral oils, mineral ores, textiles and also foodgrains, sugar and gur, fruits and vegetables, wood and timber and provisions.

Madras-Bangalore Route

10. The survey on Madras-Bangalore route was conducted from the 9th to 16th March, 1960. Madras is connected with Bangalore by two roads and the checkposts were set up on both, each covering a distance of about 220 miles. The checkposts were located at Poonamelly, Ranipet, Vanayambadi, Krishnagiri, Hosur and Madivala on one side and Chittoor, Nangli Border and Krishnarajpuram on the other. The important commodities moving by road on this route include foodgrains, fruits and vegetables, textiles, wood and timber and provisions.

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II. ANALYSIS OF THE SURVEY DATA

The broad conclusions which have emerged from an analysis of the data collected by means of goods traffic surveys on selected routes are given in this section. These relate to the type and capacity of vehicles, the basic operational data and the nature of traffic moved by road transport on these routes and the distances of haul.

Number of Vehicles Checked

2. The characteristics of road transport engaged in goods traffic as revealed by an analysis of the facts collected by means of the surveys are given in the paragraphs that follow. The table below indicates the total number of vehicles counted on each selected route during the survey week concerned.

Table 1

Total Number of Vehicles Checked

Route	Survey Week	Total No. of vehicles counted	Percentage to the total
1. Amritsar-Delhi)	23.11.59	4,700	7.47
2. Delhi-Amritsar)	to 30.11.59	5,144	8.18
Total (1&2)		9,844	15.65
3. Delhi-Kanpur)	16.12.59	5,249	8.35
4. Kanpur-Delhi)	to 23.12.59	5,314	8.45
Total (3&4)		10,563	16.80
5. Patna-Calcutta)	5.1.60	7,939	12.62
6. Calcutta-Patna)	to 12.1.60	8,898	14.15
Total (5&6)		16,837	26.77
7. Bombay-Bangalore)	11.2.60	7,992	12.70
8. Bangalore-Bombay)	to 18.2.60	8,116	12.91
Total (7&8)		16,108	25.61
9. Madras-Bangalore)	9.3.60	4,704	7.48
10. Bangalore-Madras)	to 16.3.60	4,837	7.69
Total (9&10)		9,541	15.17
G. Total		62,893	100.00

Taking the traffic in both directions on all the survey routes together, the total number of goods vehicles checked came to 62,893 of which the highest proportion (26.77%) was observed on the Calcutta-Patna route, followed by Bombay-Bangalore route (25.61%). Thus 52.38% of the

total number of vehicles were counted on the two routes viz., Calcutta-Patna and Bombay-Bangalore. The other three survey routes, namely, Amritsar-Delhi, Delhi-Kanpur and Madras-Bangalore accounted for 15.65%, 16.80% and 15.17%, respectively.

Public and Private Carriers

3. The percentage distribution of vehicles into public and private carriers is given below:-

(Annexure IV indicates this distribution in absolute numbers)

Table 2

Public & Private Carriers

(Percent)

Route	Public Carriers	Private Carriers	Total
Amritsar-Delhi	95	5	100
Delhi-Amritsar	96	4	100
Delhi-Kanpur	96	4	100
Kanpur-Delhi	96	4	100
Patna-Calcutta	89	11	100
Calcutta-Patna	88	12	100
Bombay-Bangalore	94	6	100
Bangalore-Bombay	93	7	100
Madras-Bangalore	90	10	100
Bangalore-Madras	89	11	100
All routes	92	8	100

Of the total number of vehicles counted, it was found that 92% were public carriers and only 8% private carriers. The percentage of public carriers to the total ranged from 93 to 96 on the Amritsar-Delhi, Delhi-Kanpur and Bombay-Bangalore routes and 88 to 90 on Madras-Bangalore and Patna-Calcutta routes. The highest proportion of private carriers was operating on Madras-Bangalore and Patna-Calcutta routes (10 to 12%).

Types of Permits

4. The percentage distribution of vehicles by types of permits is indicated below:- (Annexure V indicates absolute numbers).

Table 3

Distribution of Vehicles by Types of Permits

(Percent)

Route	Permanent	Temporary	Total
Amritsar-Delhi	96	4	100
Delhi-Amritsar	96	4	100
Delhi-Kanpur	81	19	100
Kanpur-Delhi	86	14	100
Patna-Calcutta	57	43	100
Calcutta-Patna	49	51	100
Bombay-Bangalore	81	19	100
Bangalore-Bombay	85	15	100
Madras-Bangalore	97	3	100
Bangalore-Madras	96	4	100
All routes	80	20	100

The survey revealed that as many as 20% of all the vehicles checked were operating on temporary permits. The highest proportion of temporary permits was found in use on Calcutta-Patna route (43 to 51%) followed by Delhi-Kanpur, Bombay-Bangalore (3 to 4%) routes. Thus, while 80% of the total number of vehicles counted on all the routes surveyed had permanent permits, the proportion of these vehicles operating on permanent permits was the lowest on Calcutta-Patna route (49 to 57%).

/(14 to 19%), Amritsar-Delhi (4%) and Madras-Bangalore

Age Distribution of Vehicles

5. The age distribution (in percentages) of motor goods vehicles on various routes surveyed is given in the table below:

(Annexure VI indicates the distribution in absolute numbers).

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Table 4

Age Distribution of Vehicles

(Percent)

Route	1950 & earlier	1951-55	1956-60	Total
Amritsar-Delhi	6	21	73	100
Delhi-Amritsar	6	19	75	100
Delhi-Kanpur	6	13	81	100
Kanpur-Delhi	7	13	80	100
Patna-Calcutta	15	10	75	100
Calcutta-Patna	16	9	75	100
Bombay-Bangalore	48	4	48	100
Bangalore-Bombay	47	5	48	100
Madras-Bangalore	56	7	37	100
Bangalore-Madras	54	7	39	100
All routes	27	9	64	100

It may be noted that of the total number of vehicles observed, 27% were 10 years old or more and 64% were 5 years old or less. In the former age-group (10 years or more), the highest number of vehicles was noticed on Madras-Bangalore and Bombay-Bangalore routes (47 to 56%), and the lowest on Amritsar-Delhi and Delhi-Kanpur routes (6 to 7%). The proportion of vehicles in the category of 5 years old or less was 73 to 81% in the case of Amritsar-Delhi, Delhi-Kanpur and Calcutta-Patna routes, 48% on Bombay-Bangalore route and 37 to 39% on Madras-Bangalore route.

Petrol and Diesel Vehicles

6. The percentage distribution of vehicles according to the type of fuel used is given below:

(Annexure VII indicates the distribution in absolute figures)

Table 5

Petrol and Diesel Vehicles

(Percent)

Route	Petrol	Diesel	Total
Amritsar-Delhi	3	97	100
Delhi-Amritsar	3	97	100
Delhi-Kanpur	3	97	100
Kanpur-Delhi	4	96	100
Patna-Calcutta	18	82	100
Calcutta-Patna	19	81	100
Bombay-Bangalore	23	77	100
Bangalore-Bombay	22	78	100
Madras-Bangalore	12	88	100
Bangalore-Madras	9	91	100
All routes	13	87	100

It was further revealed that the majority of trucks used had diesel engines. Diesel trucks constituted 87% of the total number of vehicles observed, while the balance of 13% had petrol engines. The proportion of vehicles with diesel-engines was the highest on Amritsar-Delhi and Delhi-Kanpur routes (96 to 97%), followed by Madras-Bangalore route (88 to 91%), Calcutta-Patna (81 to 82%) and Bombay-Bangalore (77 to 78%) routes.

Average Payload of Vehicles

7. Annexure VIII indicates the distribution of vehicles by payload categories. The average payload or carrying capacity of the operating vehicles on different survey routes as worked out in Annexure IX is indicated below:

Table 6

Average Payload

Route	Average payload per vehicle (Tons)
Amritsar-Delhi	7.30
Delhi-Amritsar	7.34
Delhi-Kanpur	7.11
Kanpur-Delhi	7.13
Patna-Calcutta	5.49
Calcutta-Patna	5.55
Bombay-Bangalore	4.84
Bangalore-Bombay	4.89
Madras-Bangalore	5.80
Bangalore-Madras	5.83
All routes	5.95

The average payload indicates the capacity of vehicles operating on a particular route. The total number of vehicles observed on a route in each direction is divided into a series of payload capacities of 0 to 3 tons, 3 to 5 tons, 5 to 7 tons, 7 to 9 tons, and 9 tons and above. Then the total payload for each of these series is derived by multiplying the mid-point of the series by the number of vehicles in that series. The aggregate

of this total payload for each of the series when divided by the total number of vehicles gives the average payload. The surveys revealed that the average payload of a vehicle ranged as high as 7.11 to 7.34 tons on Amritsar-Delhi and Delhi--anpur routes. It was 5.49 to 5.55 tons on Calcutta-Patna route, 5.80 to 5.83 tons on Madras-Bangalore route and 4.84 to 4.89 tons on Bombay-Bangalore route.

Loaded and Empty Vehicles

8. The table below gives an idea of the percentage distribution of goods vehicles according as they were found to be loaded or empty on the routes surveyed during the survey week: (Annexure X indicates the distribution in absolute numbers)

Table 7

Loaded and Empty Vehicles

(Percent)

Route	Loaded Vehicles	Empty Vehicles	Total
Amritsar-Delhi	75	25	100
Delhi-Amritsar	83	17	100
Delhi-Kanpur	79	21	100
Kanpur-Delhi	75	25	100
Patna-Calcutta	82	18	100
Calcutta-Patna	49	51	100
Bombay-Bangalore	79	21	100
Bangalore-Bombay	75	25	100
Madras-Bangalore	71	29	100
Bangalore-Madras	79	21	100
All routes	74	26	100

Taking together all the routes surveyed, the proportion of loaded and empty vehicles was 74% and 26% respectively. Of the trucks moving in either direction of the routes surveyed, loaded vehicles ranged from 71 to 83% with the exception of Calcutta-Patna direction in which only 49 per cent of trucks were loaded. The proportion of

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empty trucks to the total number of vehicles moving in Calcutta-Patna direction was the highest (51%) as compared with Patna-Calcutta direction (18%) and both the directions of Amritsar-Delhi, Delhi-Kanpur· Bombay-Bangalore and Madras-Bangalore routes (17 to 29%).

Load Factor or Extent of Utilisation of the Capacity of the Public and Private Carriers

9. The load factor represents the relationship between the capacity ton-miles available (payload multiplied by mileage covered) and the actual ton-miles performed. The table below sets out for each route the load factor or the percentage utilisation of public and private carriers. (Annexure XI indicates the absolute figures).

Table 8

Load Factor of Carriers (Percent)

Route	Public Carriers	Private Carriers	All Carriers
Amritsar-Delhi	72	62	71.9
Delhi-Amritsar	78	61	77.6
Delhi-Kanpur	78	41	77.5
Kanpur-Delhi	78	51	77.1
Patna-Calcutta	86	57	83.7
Calcutta-Patna	67	27	62.8
Bombay-Bangalore	79	55	78.2
Bangalore-Bombay	68	35	66.2
Madras-Bangalore	66	38	65.0
Bangalore-Madras	65	47	64.0
All routes	73	43	72.6

For all the routes taken together, the load factor or the extent of utilisation was 73% for public carriers, 43% for private carriers and 72.6% for both public and private carriers taken together. It was observed that the available capacity of public

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carriers was utilised to a greater extent than in the case of private carriers. The utilisation of public carriers capacity varied from 65% in the case of movement in Bangalore-Madras direction to 86% in the case of Patna-Calcutta direction.

10. The utilisation of private carriers capacity was the highest on Amritsar-Delhi route (61 to 62%) and the lowest in the case of their movement in Calcutta-Patna direction (27%).

Average Lead of Trucks

11. The table below indicates for each route the truck miles of work performed by the vehicles during the survey week and the average distance from the place of origin to the ultimate destination covered by a truck or the average lead of a truck.

Table 9

Truck-Miles Performed and Average Lead of Trucks

Route	Total No. of trucks	Truck-miles	Average lead of a truck (miles)
Amritsar-Delhi	4,700	5,63,080	120
Delhi-Amritsar	5,144	6,50,276	118
Delhi-Kanpur	5,249	4,55,473	86
Kanpur-Delhi	5,314	5,01,695	194
Patna-Calcutta	7,939	8,83,426	111
Calcutta-Patna	8,898	9,19,068	103
Bombay-Bangalore	7,992	11,18,705	130
Bangalore-Bombay	8,116	11,83,925	146
Madras-Bangalore	4,704	5,03,463	107
Bangalore-Madras	4,837	5,27,508	109
All routes	62,893	73,04,619	116

12. The truck-miles performed on all the survey routes during the survey week totalled 73,04,619 of which the highest proportion (31.5%) was contributed

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by Bombay-Bangalore route and the lowest (13.1%) by Delhi-Kanpur route.

17. The average lead of trucks taking all the routes into account was 116 miles. The average lead was the highest in the case of Bombay-Bangalore route (130 to 146 miles) and the lowest in the case of Delhi-Kanpur route (86 to 94 miles).

Movement of Trucks according to Distances

14. The percentage distribution of trucks on different survey routes according to distance categories is given below: (Annexure XII indicates the movement of vehicles by the various distance categories).

Table 10

Distance Categories of Trucks (Percent)

Route	Within 200 miles	Beyond 200 miles	Beyond 300 miles
Amritsar-Delhi	78.6	21.4	1.3
Delhi-Amritsar	79.4	20.6	1.1
Delhi-Kanpur	88.0	12.0	2.8
Kanpur-Delhi	86.8	13.2	2.9
Patna-Calcutta	89.1	10.9	5.5
Calcutta-Patna	89.1	10.9	4.6
Bombay-Bangalore	78.6	21.4	7.7
Bangalore-Bombay	75.0	25.0	9.3
Madras-Bangalore	78.7	21.3	6.2
Bangalore-Madras	78.3	21.7	7.0
All routes	82.5	17.5	5.2

For all the routes taken together the number of trucks moving over 200 miles on the routes surveyed was 17.5% and the number of trucks moving within 200 miles was 82.5%. The proportion of trucks operating beyond 200 miles ranged from 20.6% to 25% in the case of Amritsar-Delhi, Bombay-Bangalore and Madras-Bangalore routes and 10.9% to 13.2% for Delhi-Kanpur and Patna-Calcutta routes.

/over 300 miles was 5.2% of the total number

Quantities of Goods Carried and Ton-miles Performed by Vehicles

15. The table below indicates the total quantity of commodities moved by road and the ton-miles performed by goods vehicles on different survey routes during the survey week.

Table 11

Quantities Carried and Ton-miles Performed by Vehicles

Route	Quantity (Tons)	Percentage to Total	Ton-miles	Percentage to Total
Amritsar-Delhi	19,764.44	9.0	29,41,169	9.3
Delhi-Amritsar	25,022.70	11.2	34,33,244	11.0
Delhi-Kanpur	23,230.86	10.5	24,28,516	7.6
Kanpur-Delhi	22,294.09	10.0	26,76,767	8.5
Patna-Calcutta	31,610.58	14.2	42,70,464	13.5
Calcutta-Patna	20,228.11	9.1	32,63,987	10.4
Bombay-Bangalore	26,576.79	12.0	45,55,797	14.5
Bangalore-Bombay	25,182.85	11.3	41,43,366	13.1
Madras-Bangalore	13,173.40	6.0	19,11,810	6.0
Bangalore-Madras	14,887.79	6.7	19,56,699	6.1
All routes	2,21,971.61	100.0	315,81,819	100.0

16. The proportion of commodities in the total tonnage moved and ton-miles performed on all the routes surveyed are given below: (Annexure XIII gives absolute figures)

Table 12

Share of Commodities in Total Tonnage and Ton-miles Carried on All Survey Routes

(Percent)

Commodities	Quantity (Tons)	Ton-miles performed
Foodgrains	9.6	6.6
Oilseeds	2.9	2.6
Cotton and Jute Raw	3.0	4.7
Fruits and Vegetables	10.8	11.5
Other Agricultural Products	1.7	1.1
Provisions	4.5	6.7
Finished goods	2.4	3.6
Mineral ores	0.8	0.8
Mineral oils	4.4	3.9
Wood and timber	4.6	3.5
Sugar and Gur	8.0	7.3
Iron and Steel	3.9	4.4
Tobacco	0.7	1.2
Textiles	3.0	5.2
Building materials	12.0	3.8
Miscellaneous	27.7	33.1
	100.0	100.0

It was revealed that the main commodities moved by road, taking all the survey results into account, were fruits and vegetables, foodgrains, sugar and gur, general provisions, building materials, textiles, cotton and jute raw, iron and steel, mineral oils, finished goods, etc. The movement of these goods on the various routes were generally determined by the economic characteristics of the regions in which the survey routes lie. For example, on the routes surveyed, the movement of raw cotton from Amritsar to Delhi and from Delhi to Kanpur was the highest, apparently because cotton is one of the important cash crops grown in the Punjab and it moves down to Delhi and Kanpur where textile mills are located. Again, the movement of mineral oil is substantial from Bombay to Bangalore and the percentage is higher than on any other route. This is because oil refineries are located at Bombay and mineral oil is distributed from there.

Average Load of Commodities

17. Statements at Annexure XIV and XV give an idea of the average load of the commodities moved by road on the routes surveyed. It will be seen from Annexure XIV that the quantity moved over 200 miles formed a considerable proportion of the total quantity hauled by road in respect of finished goods in Calcutta-Patna and Bombay-Bangalore directions of the respective routes (35.3 to 38.6%), of sugar and gur in both directions of Delhi-Kanpur route (15.4 to 23.1%), and also Bangalore-Bombay and Delhi-Amritsar directions (52.7 to 57.7%), of textiles on Bangalore-Bombay (64.6 to 71.5%) and Delhi-Kanpur (39.3 to 59.1%) routes, of raw cotton and raw jute in Bangalore-Bombay, -/-

Amritsar-Delhi and Delhi-Kanpur directions (31.1 to 64.3%), of foodgrains in Bombay-Bangalore direction (20.8%), and of provisions in Amritsar-Delhi and Bangalore-Bombay directions (53.4 to 57.7%). Of these, the commodities which moved beyond 300 miles in substantial proportions as compared with their total quantities moved by road were finishedd goods in Calcutta-Patna and Bombay-Bangalore directions (13.5 to 21.1%), textiles on Bombay-Bangalore (28.7 to 39.4%) and Delhi-Kanpur (10.4 to 13.3%) routes, cotton and jute raw in Bangalore-Bombay (28.4%) and Delhi-Kanpur (15.0%) directions and provisions in Bangalore-Bombay (35.6%) and Calcutta-Patna (17.0%) directions. The movement of commodities beyond 500 miles was particularly noticeable in respect of finished goods in Bombay-Bangalore (18.1%) and Calcutta-Patna (6.9%) directions, textiles on Bombay-Bangalore (15 to 29.6%) and Delhi-Kanpur (4.4 to 6.6%) routes, cotton and jute raw and provisions in Bangalore-Bombay directions of the route (7.6% and 10.1%) respectively). The surveys also revealed the movement of finished goods and textiles, although in small quantities, even beyond 1000 miles by road.

Trends in Rail Traffic in Commodities Moving in Substantial Quantities by Road

18. It would be interesting to have an idea of the trend in the movement by rail of the commodities which move in substantial quantities by road over distances exceeding 200 miles on the routes.

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An examination of such data as the Committee could obtain from the Railway Board shows that on some of the routes there has been a perceptible decline over a period of two or three recent years in the traffic by rail of these commodities (vide Annexure XVI).

On Amritsar-Delhi route, there was a significant drop in traffic on the railways in 1958-59 as compared with the previous year in the case of sugar and gur (69.4%), mineral oils (73.9%), wood and timber (80.6%), fruits and vegetables (44%) and foodgrains (19.4%). On this route, the groups of commodities wholly or mainly moved by road as compared with rail during the survey period (23.11.59 to 30.11.59) included from Delhi to Amritsar and Amritsar to Delhi, provisions (100% and 100% respectively), animal and animal products (98.2%, 74.3%), finished products (90.4%, 99.1%), products of forests (100%, 100%) and manufactures (96.9%, 99.1%); and from Delhi to Pathankot and Pathankot to Delhi, products of agriculture (100%, 99.5%), provisions (100%, 100%), finished products (84.6%, 100%), and manufactures (98.9%, 100%).

On Delhi-Kanpur route, the traffic in sugar and gur by rail suffered a perceptible decline (46.8%) in 1958-59 as compared with 1957-58. On this route, the groups of commodities moving mainly by road from, say, Delhi to Kanpur and Kanpur to Delhi during the survey week 16.12.59 to 23.12.59 included products of agriculture (98.8%, 100%) and manufactures (99.8%, 99.8%).

On Calcutta-Patna route, there was a decline in coal and coke (15.9%) traffic by rail during the period under consideration, viz., 1958-59 as compared with 1957-58. The goods moving mainly by road during the period 5.1.60 to 12.1.60 on this route included from Calcutta to Asansol, provisions (100%), finished goods (96.8%), mineral oils (99.2%) and manufactures (96.6%); from Calcutta to Raniganj, products

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of agriculture (99.4%), provisions (100%) finished goods (98.1%), and iron and steel (99.8%); from Raniganj to Calcutta, products of agriculture (100%) and coal and coke (72.5%).

On Bombay-Bangalore route, the commodities which suffered a substantial decline in traffic by rail during the period under consideration included cotton and jute raw (68.1%), cotton manufactures (31.2%), provisions (31.7%), iron and steel wrought (26.5%) and foodgrains (13.6%). The commodities which mainly moved by road during the period 11.2.60 to 18.2.60 included from Bombay to Bangalore and Bangalore to Bombay, provisions (96.7% and 100% respectively), finished goods (92.1%, 96.2%), iron and steel (81%, 99.6%) and textiles (95.4%, 96%); from Bombay to Sholapur and Sholapur to Bombay, cotton and jute raw (99.8%, 92-6%), provisions (100%, 100%), textiles (99.9%, 96.6%), and from Bombay to Kolhapur and Kolhapur to Bombay, provisions (100%, 100%), finished goods (95.6%, 100%), mineral oils (75%, 100%), iron and steel (87.1%, 100%) and textiles (100%, 100%).

In the case of Madras-Bangalore route, the traffic which moved mainly by road as compared with the railways during the period 9.3.60 to 16.3.60 from Madras to Bangalore and Bangalore to Madras included provisions and animal (100%, 100%), animal products (100%, 77.8%), and textiles (100%, 100%).

19. The comparative position of movement of goods traffic by road and rail, as outlined in the preceding paragraph, indicates prima facie, that the decline in goods traffic by rail was probably due to diversion of traffic to road transport. For instance, while the rail traffic in commodities like cotton and jute raw, textiles and iron and steel tended to decline on Bombay-Bangalore

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route, the data collected by means of the Survey and from the Railway Board revealed that these commodities were moving on this route mainly by road. However, detailed data are not available to confirm this. Trends in the volume of freight traffic in any commodity are to be viewed in the general context of the production, imports and exports of that commodity and, in fact, of the health of the economy in general. A study of the figures of average daily loadings on the Indian Railways reveals that there was a fall in traffic in 1958, as compared with 1957, in commodities, such as oil-seeds (5%), cotton raw and manufactures (14.1%), jute raw and manufactures (5%), sugar and sugarcane (21.3%), tea (3.1%) and ores (2.8%). It may be noted that during the year 1957-58 the production of cotton cloth in the country declined by 4.5% as compared with 1956-57. During this period the production also dropped in the case of oilseeds (2.1%)/. The figures of exports and imports have also got a close bearing on the freight traffic. In 1958 there was a fall in the quantum of exports of cotton piecegoods (30.8%) and manganese ore (44%). The value of imports of raw cotton and raw jute also declined by 36.9% and 52.1%, respectively, in 1958 as compared with 1957. Thus, the downward trend in the movement by rail of some of the commodities like cotton and jute raw and textiles on the routes surveyed might be due, in a measure, to the decline in the overall production and foreign trade in these commodities.

/raw jute (5.6%) and jute manufactures (20.7%)

Need to Conduct Surveys Periodically

20. A study of the data collected by means of Sample Surveys gives an idea of the present position in respect of the nature and volume of goods traffic carried by road

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transport. It is not possible, however, to know the changes in the pattern of traffic and to have an idea of the diversion of traffic from rail to road unless the surveys on the routes concerned are repeated at intervals and are made more representative in character by taking up additional routes in the various regions of the country. In fact, the Sample Surveys conducted by the Committee represent the first step towards a regular study of the traffic by road and it will be useful to have such surveys undertaken periodically. Such studies have been organised in foreign countries from time to time, and their value could hardly be over-emphasised.


सत्यमेव जयते

III. ANNEXURES


सत्यमेव जयते

ANNEXURE I

(Specimen Copy of Proforma)

GOODS ROAD TRANSPORT SAMPLE SURVEY (1959)

COMMITTEE ON TRANSPORT POLICY AND COORDINATION

(Planning Commission)

GOVERNMENT OF INDIA

A. 1. Name of the Route .....

2. Name of the Junction .....

3. Date .....

4. Time from ..... to .....

B. 1. Name of the Recorder .....

2. Name of the Supervisor .....

C.

Registered No. of the Vehicle	Name and Address of the owner	Type of Vehicle Petrol/ Diesel	Year of Manufacture	Registered Laden weight	Unladen weight	Type of Permit (i) Public carrier (ii) Private carrier (iii) Contract carrier	Permanent/ Temporary/ Endorsed	Journey From	Journey To	Distance Total	Distance On the route	Commodities carried	Quantity carried in maunds
1	2	3	4	5	6	7	8	9	10	11	12	13	14

ANNEXURE II

(Specimen Copy of Instructions
to Supervisors)
Goods Road Transport Sample Survey (1959-60)

Committee on Transport Policy and Coordination
(Planning Commission)
Government of India

INSTRUCTIONS

The Survey of goods traffic on Calcutta-Patna route is being organised by the Committee on Transport Policy and Coordination with a view to assessing the nature and the volume of traffic carried by road transport on this route.

2. The Survey will commence at 12 Noon on Tuesday the 5th January, 1960 and continue without a break for a week upto 12 noon on Tuesday, the 12th January, 1960.

3. The staff will work in shifts of 8 hours each during the period of the Survey. A duty roster will be maintained at each checkpost. The Supervisors deputed by the Committee to supervise the work of the collection of data will reach their places of duty at 9 A.M. on the 4th January, 1960.

4. At the end of a shift each group of recorders and policemen would leave only after handling over charge to the relieving group.

5. Every group will be divided into two batches A&B, one for each direction. Both the batches will take their positions ion opposite sides of the road, some distance apart from each other. Batch A ill record data in respect of lorries coming from Calcutta side and Batch B for those coming from Patna side.

6. The constables at either end will stop the lorries whether carrying goods or empty. The data will be recorded by the recorders in the proforma supplied for the purpose. Government Department vehicles, such as P.W.D. lorries and also tractor

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trailers should be recorded. Passenger buses and military vehicles will not be checked.

7. Every care should be taken to see that the data are recorded very promptly, a vehicle is detained for a minimum possible period of time and no hardship or inconvenience is caused to the drivers and operators.

8. Recorders will first fill in all the Columns A1 to 4 and B1 and 2 of the proforma before data are entered in Col. C. In Column A4, the time of the shift is to be entered. 12 O'clock should be entered as 12 noon or 12 midnight.

9. Information in respect of columns C 1, 3, 5, 6 and 7 should be got by a visual inspection of the vehicle. As regards the rest of the columns, data are to be obtained, as far as possible, after enquiry from the driver. The log book is to be consulted if the driver is unable to furnish information in respect of any column.

10. As regards Col. 8, the recorders should carefully enter the type of permit in the following cases:

(i) When the "from" and "to" points fall in different States;

(ii) When the vehicles bearing the registration number of one State are operating within another State.

11. In case the commodities in a vehicle are being carried to more than one destination or originate from more than one place, these should be entered separately for each destination or each place of origin as the case may be. Recorders should ask the drivers if the entire consignment, especially when it consists of more than one commodity, is intended for only one destination, if not, they should record the commodities and weights intended for each destination.

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12. While recording the origin and destination, the recorders should be satisfied that they are themselves aware of the exact location of the places concerned. If not, they should make enquiries from the drivers and write out the nearest railway station or big town.

13. As regards Column C 13, the exact nature of the commodities carried should be entered. The entries should, as far as practicable, conform to the classification lists which would be supplied to the recorders for guidance. If a lorry is empty, 'nil' should be entered against Column C 13. If more than one commodity is being carried, the weight of each should be entered separately.

14. If there is any doubt about the name of the commodity, recorders should write it in the regional language rather than attempt a doubtful English translation. The Supervisor, while checking the proforma at the end of the shift will enter the same correctly in English.

15. In the case of a number of commodities detailed below, particulars are to be recorded as indicated:

(a) Cotton:- It should be recorded if it is loose or full pressed.

(b) Manure:- It should be recorded if it is organic or chemical manure.

(c) Fresh fruit or foodgrains: The exact name of the commodity should be given e.g. banana, orange, wheat, rice or paddy etc.

(d) Livestock: In col. 14, the actual number should be entered and it should should be stated that it is a number and not the weight in maunds. In Col. 13, the live-stock actually carried, whether sheep, cows, buffaloes, should be recorded.

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16. If miscellaneous goods are carried in a lorry, the recorders should, as far as possible, separate individual items and record weights separately. Items weighing about 20 mds. or more should be shown separately.

17. Entries about lorries should be serially numbered in the proforma separately for each shift.

18. In case a lorry does not stop at a Checkpost, the recorders should enter the registered number and the time the lorry passed and whether it was loaded or empty. In case it is not possible to know even the registration number especially at night, an indication should be given on the proforma of the lorry having passed without stopping.

19. In cases where the same lorry makes several trips during the course of the day, it should be detained on each occasion only to record the registered number, the commodity and the weight. The other particulars should be filled up later from the earlier entries made. But in no case should any entry be left incomplete.

20. Every loaded lorry going to a destination beyond the next checkpost should be labelled. A label of the prescribed colour, digit and shape should be pasted on the wind-screen of the vehicle so checked. Empty lorries should be checked but not labelled. No vehicle bearing the label of the required colour, digit and shape should be stopped for checking.

21. Labels bearing the digits 1, 2, 3, 4, 5, 6, 7 will be provided, one for each day of the survey as follows:-

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Days	Digit of the label Digit
(12 noon to 12 noon) Tuesday-Wednesday (5th-6th Jan.1960)	1
Wednesday-Thursday (6th-7th Jan. 1960)	2
Thursday-Friday (7th-8th Jan.)	3
Friday-Saturday (8th-9th Jan.)	4
Saturday-Sunday (9th-10th Jan.)	5
Sunday-Monday (10th-11th Jan.)	6
Monday-Tuesday (11th-12th Jan.)	7

Labels will be in two shapes - triangular and rectangular. Throughout the survey period triangular lables should be used for lorries moving in the direction of Calcutta-to Patna and rectangular labels for the vehicles moving in the opposite direction, viz., Patna to Calcutta. The digit of all the labels (both triangular and rectangular) used on lorries going in either direction on each day will be as given above.

22. In case a lorry bears a triangular label indicating that checking has been done earlier for its movement in the direction of Calcutta to Patna and it is found moving in the opposite direction i.e. Patna to Calcutta, it has to be checked again and vice versa.

23. Entries for every two hours will be separated by drawing a horizontal line on the proforma.

24. After each shift, the proforma that have been filled in will be properly tagged or tied in serial order, separately for each direction.

25. The supervisors are required to collect some supplementary information also. If they come across a dealer going in a lorry with his goods, the supervisors should note his name and address and, in addition to

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the usual information regarding the nature of goods carried, their origin and destination etc., they should also record information after making enquiries from him in respect of the charges paid by him for hiring the lorry and how these compared with railway freight charges, and also the reasons for his preference for road transport. In such cases, the driver should also be asked as to what goods be expected to bring on his return journey and if he would be able to meet the running costs of the vehicle.

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ANNEXURE III

CLASSIFIED LIST OF COMMODITIES

PRODUCTS OF AGRICULTURE

Foodgrains, including Atta, Suji, Pulses, Paddy, Lobia, Corn

Oilseeds

Cotton and Jute raw, Cotton Pressed and Loose

Fresh Fruits and Vegetables, including Potatoes, Onions, etc., and excluding Dry Fruits which will fall under "Provisions"

Sugarcane

Other Agricultural Products, including all types of Dry and Green Fodder and Gawara

PROVISIONS

All Bardana items, spices, Mariana, Dry Fruits, Asafoetida, Tinned Foods, Kattha

ANIMAL AND ANIMAL PRODUCTS

All live animals including Poultry

All raw products of animals, including Hides and Skins, Raw Wool, Bones, Horns, Shells, Furs, excluding Milk, Milk Products and Ghee

Milk, Milk Products (other than Ghee and Butter, Fish and Eggs)

FINISHED GOODS

All types of Machines and Tools, Agricultural Implements including Crushers, Electrical Goods, Batteries, Motor Parts, Sewing Machines, Bicycles, Radios, Gramophones, Refrigerators, Steel Furniture, Hardware and Utensils, Cables and Lamps

Rubber and Rubber Products and Plastics

Wooden Manufactured Goods including all Wooden Furniture, Sport Goods, Plywood and Empty Wooden Cases

Glass and Glass Products including Bangles and China Crockery

Leather and Leather Goods including Shoes of all kinds.

PRODUCTS OF MINES

Coal, Soft Coke and Charcoal

Mineral Ores of all kinds

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Building Material including Sand, Bricks, Lime, Limestone, Marble, Concrete, Tiles, Asphalt

Mineral Oils, including Kerosene, Petrol,, Diesel

PRODUCTS OF FOREST

Woods of all kinds including Timber, Fuel Wood, Bamboos, Bamboo Grass, excluding wooden manufactured articles
Lac and Rosin

MANUFACTURES

Sugar, Khandsari, Gur, Molasses etc.

Ghee, Vegetable Oils, and Hydrogenated Oils

Cement

Iron and Steel including Finished Products like Iron and Brass Bars and Rods, Flats, Poles, Pipes, Rails and Girders, Iron and Tin Sheets, Brass Sheets Bolts and Nuts etc.

Salt

Paper, Card Board

Tea Coffee and Cocoa

Tobacco Manufactured, Cigarettes, Biris, Cigars

Manures of all kinds

Textiles of all kinds: Cotton, Jute, Wool and Silk, including Yarns, Ropes Gunny Bags, Coir and Coir-Mats Nylon Textiles, All types of Hosiery, Tents etc.

ALL OTHERS

Alcohol, Spirits and Wines, Raw Tobacco, Empty Tins, Barrels, Soaps, Hair Oils, Confectionery, Acids, Oxygen Cylinders, Candles, Medicines, Photographic Goods, Films, Stationery other than paper.

ANNEXURE XII

Movement of Vehicles according to Different Distance Zones

Name of the route	Total number of vehicles counted	Vehicles moving: Beyond 25 miles	Beyond 50 miles	Beyond 75 miles	Beyond 100 miles	Beyond 150 miles	Beyond 200 miles	Beyond 300 miles	Beyond 500 miles	Beyond 1000 miles
1	2	3	4	5	6	7	8	9	10	11
1. Amritsar-Delhi	4,700	4,047 (86.1)	3,265 (69.5)	2,615 (55.6)	2,215 (47.1)	1,514 (32.2)	1,005 (21.4)	59 (1.3)	12 (0.3)	1 (0.02)
2. Delhi-Amritsar	5,143+1*	4,410 (85.7)	3,568 (69.4)	3,011 (58.5)	2,536 (49.3)	1,670 (32.5)	1,063 (20.7)	58 (1.1)	4 (0.1)	1 (0.02)
Total (1+2)	9,843+1*	8,457 (85.9)	6,833 (69.4)	5,626 (57.2)	4,751 (48.3)	3,184 (32.3)	2,068 (21.0)	117 (1.2)	16 (0.2)	2 (0.02)
3. Delhi-Kanpur	5,249	3,654 (69.6)	2,218 (42.3)	1,738 (33.1)	1,362 (25.9)	950 (18.1)	629 (12.0)	149 (2.8)	67 (1.3)	3 (0.06)
4. Kanpur-Delhi	5,314	3,942 (74.2)	2,429 (45.7)	2,020 (38.0)	1,602 (30.1)	1,050 (19.8)	703 (13.2)	155 (2.9)	83 (1.6)	8 (0.1)
Total (3+4)	10,563	7,596 (71.9)	4,647 (44.0)	3,758 (35.6)	2,964 (28.1)	2,000 (18.9)	1,332 (12.6)	304 (2.9)	150 (1.4)	11 (0.1)
5. Patna-Calcutta	7,939	6,867 (86.5)	4,874 (61.4)	3,946 (49.7)	3,641 (45.9)	1,623 (20.4)	868 (10.9)	437 (5.5)	161 (2.0)	12 (0.2)
6. Calcutta-Patna	8,898	7,245 (81.4)	4,680 (52.6)	3,685 (41.4)	3,415 (38.4)	1,509 (17.0)	965 (10.8)	404 (4.5)	159 (1.8)	23 (0.3)
Total (5+6)	16,837	14,112 (83.8)	9,554 (56.7)	7,629 (45.3)	7,056 (41.9)	3,132 (18.6)	1,833 (10.9)	841 (5.0)	320 (1.9)	35 (0.2)
7. Bombay-Bangalore	7,992	7,622 (95.4)	5,462 (68.3)	4,980 (62.3)	4,532 (56.7)	2,220 (27.8)	1,709 (21.4)	617 (7.7)	328 (4.1)	17 (0.2)
8. Bangalore-Bombay	8,116	7,281 (89.7)	5,546 (68.3)	5,047 (62.2)	4,596 (56.6)	2,453 (30.2)	2,030 (25.0)	758 (9.3)	367 (4.5)	11 (0.1)
Total (7+8)	16,108	14,903 (92.5)	11,008 (68.3)	10,027 (62.2)	9,128 (56.7)	4,673 (29.0)	3,739 (23.2)	1,375 (8.5)	695 (4.3)	28 (0.2)
9. Madras-Bangalore	4,704	2,948 (62.7)	2,534 (53.9)	2,233 (47.5)	1,877 (39.9)	1,259 (26.8)	1,003 (21.3)	291 (6.2)	51 (1.1)	2 (0.04)
10. Bangalore-Madras	4,837	3,051 (63.1)	2,602 (53.8)	2,274 (47.0)	1,947 (40.3)	1,353 (28.0)	1,055 (21.8)	339 (7.0)	36 (0.7)	- -
Total (9+10)	9,541	5,999 (62.9)	5,136 (53.8)	4,507 (47.2)	3,824 (40.1)	2,612 (27.4)	2,058 (21.6)	630 (6.6)	87 (0.9)	2 (0.02)
All Routes:	62,892 + 1*	51,067 (81.2)	37,178 (59.1)	31,547 (50.2)	27,723 (44.1)	15,601 (24.8)	11,030 (17.5)	3,267 (5.2)	1,268 (2.0)	78 (0.1)

NOTE: Figures in brackets indicate percentages of vehicles in each distance category to the total number of vehicles counted.

* Particulars are not known.

ANNEXURE V

Distribution of Vehicles by Types of Permits

Numbers — Percentages in Brackets

Route	Permanent Permit			Temporary Permit			Total Number of Vehicles
	Endorsed	Not Endorsed	TOTAL	Endorsed	Not Endorsed	TOTAL	
1	2	3	4	5	6	7	8
1. Amritsar-Delhi	2,094 (44)	2,434 (52)	4,528 (96)	72 (2)	100 (2)	172 (4)	4,700 (100)
2. Delhi-Amritsar	2,674 (52)	2,285 (44)	4,959 (96)	93 (2)	91 (2)	184 (4)	5,143+1* (100)
Total (1+2)	4,768 (48)	4,719 (48)	9,487 (96)	165 (2)	191 (2)	356 (4)	9,843+1* (100)
3. Delhi-Kanpur	1,107 (21)	3,154 (60)	4,261 (81)	232 (5)	755 (14)	987 (19)	5,248+1* (100)
4. Kanpur-Delhi	2,257 (43)	2,305 (43)	4,562 (86)	164 (3)	588 (11)	752 (14)	5,314 (100)
Total (3+4)	3,364 (32)	5,459 (52)	8,823 (84)	396 (3)	1,343 (13)	1,739 (16)	10,562+1* (100)
5. Patna-Calcutta	921 (12)	3,583 (45)	4,504 (57)	148 (2)	3,284 (41)	3,432 (43)	7,936+3* (100)
6. Calcutta-Patna	183 (2)	4,162 (47)	4,345 (49)	131 (1)	4,422 (50)	4,553 (51)	8,898 (100)
Total (5+6)	1,104 (7)	7,745 (46)	8,849 (53)	279 (1)	7,706 (50)	7,985 (51)	16,834+3* (100)
7. Bombay-Bangalore	455 (6)	6,504 (81)	6,959 (81)	112 (1)	921 (12)	1,033 (13)	7,992 (100)
8. Bangalore-Bombay	683 (8)	6,260 (77)	6,943 (85)	234 (3)	936 (12)	1,170 (15)	8,113+3* (100)
Total (7+8)	1,138 (7)	12,764 (79)	13,902 (86)	346 (2)	1,857 (12)	2,203 (14)	16,105+3* (100)
9. Madras-Bangalore	1,722 (36)	2,862 (61)	4,584 (97)	51 (1)	69 (2)	120 (3)	4,704 (100)
10. Bangalore-Madras	1,777 (37)	2,881 (59)	4,658 (96)	63 (1)	116 (3)	179 (4)	4,837 (100)
Total (9+10)	3,499 (37)	5,743 (60)	9,242 (97)	114 (1)	185 (2)	299 (3)	9,541 (100)
All Routes:	15,873 (22)	36,430 (58)	50,303 (80)	1,300 (2)	11,282 (18)	12,582 (20)	62,885+8*

ANNEXURE VI

Distribution of Vehicles according to their Age

Numbers — Percentages in Brackets

Route / Year of Manufacture	Pre-1950 and 1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	Total
1	2	3	4	5	6	7	8	9	10	11	12	13
1. Amritsar-Delhi	279 (6)	148 (3)	98 (2)	145 (3)	208 (5)	377 (8)	700 (15)	952 (20)	954 (20)	839 (18)	– –	4700 (100)
2. Delhi-Amritsar	312 (6)	135 (3)	112 (1)	161 (3)	199 (4)	393 (8)	756 (15)	1113 (22)	1095 (21)	868 (17)	– –	5144 (100)
Total (1 + 2)	391 (6)	283 (3)	210 (2)	306 (3)	407 (4)	770 (8)	1456 (15)	2065 (21)	2049 (21)	1707 (17)	– –	9844 (100)
3. Delhi - Kanpur	329 (6)	45 (1)	57 (1)	104 (2)	92 (2)	342 (7)	830 (16)	1232 (23)	1097 (21)	1121 (21)	– –	5249 (100)
4. Kanpur - Delhi	350 (7)	62 (1)	56 (1)	101 (2)	105 (2)	357 (7)	873 (16)	1186 (22)	1151 (22)	1071 (20)	– –	5312+2* (100)
Total (3 + 4)	679 (6)	107 (1)	113 (1)	205 (2)	197 (2)	699 (7)	1703 (16)	2418 (23)	2248 (21)	2192 (21)	– –	10561+2* (100)
5. Patna - Calcutta	1236 (15)	55 (1)	86 (1)	59 (1)	141 (2)	368 (5)	897 (11)	1665 (21)	1673 (21)	1755 (22)	4 –	7939 (100)
6. Calcutta - Patna	1412 (16)	61 (1)	97 (1)	81 (1)	165 (2)	397 (4)	970 (11)	1806 (20)	1805 (20)	2099 (24)	5 (-)	8898 (100)
Total (5 + 6)	2648 (16)	116 (1)	183 (1)	140 (1)	306 (2)	765 (4)	1867 (11)	3471 (20)	3478 (20)	3854 (23)	9 (-)	16837 (100)
7. Bombay - Bangalore	3873 (48)	58 (1)	96 (1)	25 (-)	87 (1)	83 (1)	576 (7)	763 (10)	996 (12,	1339 (17)	116 (2)	7992 (100)
8. Bangalore - Bombay	3850 (47)	58 (1)	88 (1)	31 (-)	121 (2)	94 (1)	535 (7)	767 (9)	1064 (13)	1416 (18)	92 (1)	8116 (100)
Total (7 + 8)	7723 (48)	96 (1)	184 (1)	56 (-)	208 (1)	177 (1)	1111 (7)	1530 (10)	2060 (13)	2755 (18)	208 (1)	16108 (100)
9. Madras - Bangalore	2628 (56)	48 (1)	95 (2)	33 (1)	49 (1)	105 (2)	442 (9)	420 (9)	417 (9)	467 (10)	– –	4704 (100)
10. Bangalore - Madras	2609 (54)	45 (1)	73 (1)	45 (1)	48 (1)	124 (3)	453 (9)	464 (10)	442 (9)	499 (10)	35 (1)	4837 (100)
Total (9 + 10)	5237 (55)	93 (1)	168 (2)	78 (1)	97 (1)	229 (2)	895 (9)	884 (9)	859 (9)	966 (10)	35 (1)	9541 (100)
All Routes	16,878 (27)	695 (1)	858 (1)	785 (1)	1,215 (2)	2,640 (4)	7,032 (11)	10,368 (17)	10,694 (17)	11,474 (18)	252 (1)	62,891+2* (100)

* Parituclars are not known

ANNEXURE VII

Types of Vehicles - Petrol/Diesel

Numbers — Percentages in Brackets

Route	Petrol	Diesel	Total
1	2	3.	4
1. Amritsar - Delhi	146 (3)	4,554 (97)	4,700 (100)
2. Delhi - Amritsar	174 (3)	4,970 (97)	5,144 (100)
Total (1 + 2)	320 (3)	9,524 (97)	9,844 (100)
3. Delhi - Kanpur	172 (3)	5,077 (97)	5,249 (100)
4. Kanpur - Delhi	231 (4)	5,083 (96)	5,314 (100)
Total (3 + 4)	403 (4)	10,160 (96)	10,563 (100)
5. Patna - Calcutta	1,432 (18)	6,506 (82)	7,938+1* (100)
6. Calcutta - Patna	1,704 (19)	7,193 (81)	8,897+1* (100)
Total (5 + 6)	3,136 (19)	13,699 (81)	16,835+2* (100)
7. Bombay - Bangalore	1,805 (23)	6,187 (77)	7,992 (100)
8. Bangalore - Bombay	1,794 (22)	6,318 (78)	8,112+4* (100)
Total (7 + 8)	3,599 (22)	12,505 (78)	16,104+4* (100)
9. Madras - Bangalore	574 (12)	4,130 (88)	4,704 (100)
10. Bangalore - Madras	437 (9)	4,400 (91)	4,837 (100)
Total (9 + 10)	1,011 (11)	8,530 (89)	9,541 (100)
All Routes	8,469 (13)	54,418 (87)	62,887+6* (100)

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* Particulars are not known.

ANNEXURE VIII

Distribution of Vehicles by Payload Categories

Numbers — Percentages in Brackets

Route	Less than 3 tons	3 and less than 5 tons	5 and less than 7 tons	7 and less than 9 tons	9 tons and above	Total
1	2	3	4	5	6	7
1. Amritsar-Delhi	47 (1)	126 (3)	1,243 (26)	3,270 (70)	14 (-)	4,700 (100)
2. Delhi-Amritsar	44 (1)	121 (2)	1,312 (26)	3,654 (71)	13 (-)	5,144 (100)
Total (1+2)	91 (1)	247 (3)	2,555 (26)	6,924 (70)	27 (-)	9,844 (100)
3. Delhi-Kanpur	78 (2)	188 (4)	1,756 (33)	3,170 (60)	56 (1)	5,248+1* (100)
4. Kanpur - Delhi	81 (1)	179 (3)	1,733 (33)	3,272 (62)	49 (1)	5,314 (100)
Total (3+4)	159 (1)	367 (4)	3,489 (33)	6,442 (61)	105 (1)	10,562+1* (100)
5. Patna - Calcutta	177 (2)	2,824 (36)	3,831 (48)	979 (12)	125 (2)	7,936+3* (100)
6. Calcutta-Patna	236 (3)	2,974 (33)	4,327 (49)	1,201 (13)	160 (2)	8,898 (100)
Total (5+6)	413 (3)	5,798 (34)	8,158 (48)	2,180 (13)	285 (2)	16,834+3* (100)
7. Bombay-Bangalore	107 (2)	4,827 (60)	2,677 (33)	330 (4)	51 (1)	7,992 (100)
8. Bangalore-Bombay	113 (1)	4,681 (58)	2,911 (36)	352 (4)	53 (1)	8,110+6* (100)
Total (7+8)	220 (1)	9,508 (59)	5,588 (35)	682 (4)	104 (1)	16,102+6* (100)
9. Madras-Bangalore	76 (2)	719 (15)	3,516 (75)	348 (7)	45 (1)	4,704 (100)
10. Bangalore-Madras	51 (1)	738 (15)	3,622 (75)	399 (8)	27 (1)	4,837 (100)
Total (9+10)	127 (2)	1,457 (15)	7,138 (75)	747 (8)	72 (-)	9,541 (100)
All Routes	1,010 (1.60)	17,377 (27.63)	26,928 (42.82)	16,975 (26.99)	593 (0.06)	62,883+10* (100)

ANNEXURE IX

Average Payload of Vehicles Checked on Various Routes

Route	Mid-point of the Series	Number of trucks	Total Payload (Col.2xCol.3)	Average payload
1	2	3	4	5
Amritsar-Delhi				
0-3 tons	1.5	47	70.5	
3-5 tons	4.0	126	504.0	
5-7 tons	6.0	1,243	7,458.0	
7-9 tons	8.0	3,270	26,160.0	
9- above	10.0	14	140.0	
Total		4,700	34,332.5	7.30
Delhi-Amritsar				
0-3 tons	1.5	44	66.0	
3-5 tons	4.0	121	484.0	
5-7 tons	6.0	1,312	7,872.0	
7-9 tons	8.0	3,654	29,232.0	
9- above	10.0	13	130.0	
Total		5,144	37,784.0	7.34
Delhi-Kanpur				
0-3 tons	1.5	78	117.0	
3-5 tons	4.0	188	752.0	
5-7 tons	6.0	1,756	10,536.0	
7-9 tons	8.0	3,170	25,360.0	
9- above	10.0	56	560.0	
Total		5,248+1*	37,325.0	7.11
Kanpur-Delhi				
0-3 tons	1.5	81	121.5	
3-5 tons	4.0	179	716.0	
5-7 tons	6.0	1,733	10,398.0	
7-9 tons	8.0	3,272	26,176.0	
9- above	10.0	49	490.0	
Total		5,314	37,901.5	7.13
Patna-Calcutta				
0-3 tons	1.5	177	265.5	
3-5 tons	4.0	2,824	11,296.0	
5-7 tons	6.0	3,831	22,986.0	
7-9 tons	8.0	979	7,832.0	
9- above	10.0	125	1,250.0	
Total		7,936+3*	43,629.5	5.49
Calcutta-Patna				
0-3 tons	1.5	236	354.0	
3-5 tons	4.0	2,974	11,896.0	
5-7 tons	6.0	4,327	25,962.0	
7-9 tons	8.0	1,201	9,608.0	
9- above	10.0	160	1,600.0	
Total		8,898	49,420.0	5.55

ANNEXURE IX (Contd.)

1	2	3	4	5
Bombay-Bangalore				
0-3 tons	1.5	107	160.5	
3-5 tons	4.0	4,827	19,308.0	
5-7 tons	6.0	2,677	16,062.0	
7-9 tons	8.0	330	2,640.0	
9- above	10.0	51	510.0	
Total		7,992	38,680.5	4.84
Bangalore-Bombay				
0-3 tons	1.5	113	169.5	
3-5 tons	4.0	4,681	18,724.0	
5-7 tons	6.0	2,911	17,466.0	
7-9 tons	8.0	352	2,816.0	
9- above	10.0	53	530.0	
Total		8,110+6*	39,705.5	4.89
Madras-Bangalore				
0-3 tons	1.5	76	114.0	
3-5 tons	4.0	719	2,876.0	
5-7 tons	6.0	3,516	21,096.0	
7-9 tons	8.0	348	2,784.0	
9- above	10.0	45	450.0	
Total		4,704	27,320.0	5.80
Bangalore-Madras				
0-3 tons	1.5	51	76.5	
3-5 tons	4.0	738	2,952.0	
5-7 tons	6.0	3,622	21,732.0	
7-9 tons	8.0	399	3,192.0	
9- above	10.0	27	270.0	
Total		4,837	28,222.5	5.83

* Particulars are not known.

ANNEXURE X

LOADED AND EMPTY VEHICLES

Numbers — Percentages in Brackets

Route	Loaded Vehicles	Empty Vehicles	Total
1.	2	3	4
1. Amritsar-Delhi	3,541 (75)	1,159 (25)	4,700 (100)
2. Delhi-Amritsar	4,281 (83)	863 (17)	5,144 (100)
Total (1 + 2)	7,822 (79)	2,022 (21)	9,844 (100)
3. Delhi-Kanpur	4,169 (79)	1,080 (21)	5,249 (100)
4. Kanpur-Delhi	3,997 (75)	1,317 (25)	5,314 (100)
Total (3 + 4)	8,166 (77)	2,397 (23)	10,563 (100)
5. Patna-Calcutta	6,513 (82)	1,426 (18)	7,939 (100)
6. Calcutta-Patna	4,354 (49)	4,544 (51)	8,898 (100)
Total (5 + 6)	10,867 (65)	5,970 (35)	16,837 (100)
7. Bombay-Bangalore	6,342 (79)	1,650 (21)	7,992 (100)
8. Bangalore-Bombay	6,081 (75)	2,035 (25)	8,116 (100)
Total (7 + 8)	12,423 (77)	3,685 (23)	16,108 (100)
9. Madras-Bangalore	3,343 (71)	1,361 (29)	4,704 (100)
10. Bangalore-Madras	3,816 (79)	1,021 (21)	4,837 (100)
Total (9 + 10)	7,159 (75)	2,382 (25)	9,541 (100)
All Routes	46,437 (74)	16,456 (26)	62,893 (100)

ANNEXURE XI

Load Factor of Carriers

Route	Public Carriers			Private Carriers			Grand Total		
	Capacity Ton-miles	Actual Ton-miles Performed	Percentage of Col. 3 to Col.2	Capacity Ton-miles	Actual Ton-miles Performed	Percentage of Col. 6 to Col. 5	Capacity Ton-Miles	Actual Ton-Miles Performed	Percentage of Col 9 to Col. 8
1	2	3	4	5	6	7	8	9	10
1. Amritsar-Delhi	39,73,100	28,69,118	72	1,17,122	72,051	62	40,90,222	29,41,169	71.9
2. Delhi-Amritsar	43,52,953	33,89,877	78	70,711	43,367	61	44,23,664	34,33,244	77.6
Total (1 +2)	83,26,053	62,58,995	75	1,87,833	1,15,418	61	85,13,886	63,74,413	74.8
3. Delhi-Kanpur	30,64,116	24,00,707	78	67,523	27,809	41	31,31,639	24,28,516	77.5
4. Kanpur-Delhi	34,12,027	26,48,282	78	56,284	28,485	51	34,68,311	26,76,767	77.1
Total (3 + 4)	64,76,143	50,48,989	78	1,23,807	56,294	45	65,99,950	51,05,283	77.4
5. Patna-Calcutta	47,62,448	40,76,767	86	3,38,887	1,93,697	57	51,01,335	42,70,464	83.7
6. Calcutta-Patna	47,10,824	31,34,550	67	4,83,828	1,29,437	27	51,94,652	32,63,987	62.8
Total (5 + 6)	94,73,272	72,11,317	76	8,22,715	3,23,134	39	1,02,95,987	75,34,451	73.2
7. Bombay-Bangalore	56,49,841	44,93,190	79	1,71,472	93,607	55	58,21,313	45,55,797	78.2
8. Bangalore-Bombay	60,06,825	40,55,966	68	2,47,467	87,400	35	62,54,292	41,43,366	66.2
Total (7 + 8)	116,56,666	85,18,156	73	4,18,939	1,81,007	43	1,20,75,605	86,99,163	72.0
9. Madras-Bangalore	23,28,184	18,68,334	66	1,14,110	43,476	38	29,42,294	19,11,810	65.0
10. Bangalore-Madras	29,50,305	19,07,759	65	1,03,126	48,940	47	30,53,431	19,56,699	64.0
Total (9 + 10)	57,78,489	37,76,093	65	2,17,236	92,416	43	59,95,725	38,68,509	64.5
All routes	4,17,10,623	3,08,13,550	73	17,70,530	7,68,269	43	4,34,81,153	3,15,81,819	72.6

ANNEXURE XII

Movement of Vehicles according to Different Distance Zones

Name of the route	Total number of vehicles counted	Vehicles moving: Beyond 25 miles	Beyond 50 miles	Beyond 75 miles	Beyond 100 miles	Beyond 150 miles	Beyond 200 miles	Beyond 300 miles	Beyond 500 miles	Beyond 1000 miles
1	2	3	4	5	6	7	8	9	10	11
1. Amritsar-Delhi	4,700	4,047 (86.1)	3,265 (69.5)	2,615 (55.6)	2,215 (47.1)	1,514 (32.2)	1,005 (21.4)	59 (1.3)	12 (0.3)	1 (0.02)
2. Delhi-Amritsar	5,143+1*	4,410 (85.7)	3,568 (69.4)	3,011 (58.5)	2,536 (49.3)	1,670 (32.5)	1,063 (20.7)	58 (1.1)	4 (0.1)	1 (0.02)
Total (1+2)	9,843+1*	8,457 (85.9)	6,833 (69.4)	5,626 (57.2)	4,751 (48.3)	3,184 (32.3)	2,068 (21.0)	117 (1.2)	16 (0.2)	2 (0.02)
3. Delhi-Kanpur	5,249	3,654 (69.6)	2,218 (42.3)	1,738 (33.1)	1,362 (25.9)	950 (18.1)	629 (12.0)	149 (2.8)	67 (1.3)	3 (0.06)
4. Kanpur-Delhi	5,314	3,942 (74.2)	2,429 (45.7)	2,020 (38.0)	1,602 (30.1)	1,050 (19.8)	703 (13.2)	155 (2.9)	83 (1.6)	8 (0.1)
Total (3+4)	10,563	7,596 (71.9)	4,647 (44.0)	3,758 (35.6)	2,964 (28.1)	2,000 (18.9)	1,332 (12.6)	304 (2.9)	150 (1.4)	11 (0.1)
5. Patna-Calcutta	7,939	6,867 (86.5)	4,874 (61.4)	3,946 (49.7)	3,641 (45.9)	1,623 (20.4)	868 (10.9)	437 (5.5)	161 (2.0)	12 (0.2)
6. Calcutta-Patna	8,898	7,245 (81.4)	4,680 (52.6)	3,683 (41.4)	3,415 (38.4)	1,509 (17.0)	965 (10.8)	404 (4.5)	159 (1.8)	23 (0.3)
Total (5+6)	16,837	14,112 (83.8)	9,554 (56.7)	7,629 (45.3)	7,056 (41.9)	3,132 (18.6)	1,833 (10.9)	841 (5.0)	320 (1.9)	35 (0.2)
7. Bombay-Bangalore	7,992	7,622 (95.4)	5,462 (68.3)	4,980 (62.3)	4,532 (56.7)	2,220 (27.8)	1,709 (21.4)	617 (7.7)	328 (4.1)	17 (0.2)
8. Bangalore-Bombay	8,116	7,281 (89.7)	5,546 (68.3)	5,047 (62.2)	4,596 (56.6)	2,453 (30.2)	2,030 (25.0)	758 (9.3)	367 (4.5)	11 (0.1)
8. Bangalore-Bombay	8,116	7,281 (89.7)	5,546 (68.3)	5,047 (62.2)	4,596 (56.6)	2,453 (30.2)	2,030 (25.0)	758 (9.3)	367 (4.5)	11 (0.1)
Total (7+8)	16,108	14,903 (92.5)	11,008 (68.3)	10,027 (62.2)	9,128 (56.7)	4,673 (29.0)	3,739 (23.2)	1,375 (8.5)	695 (4.3)	28 (0.2)
9. Madras-Bangalore	4,704	2,948 (62.7)	2,534 (53.9)	2,233 (47.5)	1,877 (39.9)	1,259 (26.8)	1,003 (21.3)	291 (6.2)	51 (1.1)	2 (0.04)
10. Bangalore-Madras	4,837	3,051 (63.1)	2,602 (53.8)	2,274 (47.0)	1,947 (40.3)	1,353 (28.0)	1,055 (21.8)	339 (7.0)	36 (0.7)	- -
Total (9+10)	9,541	5,999 (62.9)	5,136 (53.8)	4,507 (47.2)	3,824 (40.1)	2,612 (27.4)	2,058 (21.6)	630 (6.6)	87 (0.9)	2 (0.02)
All Routes:	62,892 + 1*	51,067 (81.2)	37,178 (59.1)	31,547 (50.2)	27,723 (44.1)	15,601 (24.8)	11,030 (17.5)	3,267 (5.2)	1,268 (2.0)	78 (0.1)

NOTE: Figures in brackets indicate percentages of vehicles in each distance category to the total number of vehicles counted.

* Particulars are not known.

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ANNEXURE XIII

Quantity and Ton-Miles of Commodities Carried on all Routes

Commodities	Amritsar – Delhi		Delhi–Amritsar		Delhi–Kanpur		Kanpur–Delhi		Patna – Calcutta		Calcutta – Patna	
	Quantity Carried (Tons)	Total Ton-miles Performed	Quantity Carried (Tons)	Total Ton-miles Performed	Quantity Carried (Tons)	Total Ton-miles Performed	Quantity Carried (Tons)	Total Ton-miles Performed	Quantity Carried (Tons)	Total Ton-miles Performed	Quantity Carried (Tons)	Total Ton-miles Performed
1.	2	3	4	5	6	7	8	9	10	11	12	13
1. Foodgrains	2,623.16 (11.3)	294,068 (10.0)	2,782.91 (11.1)	281,195 (8.2)	2,890.58 (12.4)	179,410 (7.4)	1,413.70 (6.3)	1,66,435 (6.2)	4,335.09 (13.7)	3,45,185 (8.1)	1,365.88 (6.7)	97,175 (3.0)
2. Oilseeds	836.52 (4.2)	122,796 (4.2)	1,256.42 (5.0)	158,211 (4.6)	1,080.13 (4.6)	66,820 (2.8)	994.96 (4.5)	91,704 (3.4)	100.14 (0.3)	27,775 (0.6)	103.04 (0.5)	6,267 (0.2)
3. Cotton and Jute Raw	1,148.33 (5.8)	197.731 (6.7)	707.80 (2.8)	86,332 (2.5)	1,749.90 (7.5)	407,503 (16.8)	215.64 (1.0)	47,226 (1.8)	407.84 (1.3)	1,64,062 (3.8)	434.30 (2.1)	46,134 (1.4)
4. Fruits and Vegetables	2,342.84 (11.9)	523.638 (17.8)	1,609.97 (6.4)	291,914 (8.5)	3,254.90 (14.0)	269.691 (11.1)	3,270.37 (14.7)	2,89,136 (10.8)	3,867.45 (12.2)	7,42,623 (17.4)	824.91 (4.1)	71,420 (2.2)
5. Other Agricultural Products	481.59 (2.4)	48,438 (1.6)	396.51 (1.6)	32,512 (0.9)	556.24 (2.4)	23,106 (1.0)	837.84 (3.8)	99,822 (3.7)	270.75 (0.9)	43,026 (1.1)	314.44 (1.6)	21,208 (0.6)
6. Provisions	2,327.17 (11.8)	486,381 (16.6)	1,117.80 (4.5)	1,75,851 (5.1)	611.22 (2.6)	92,293 (3.8)	203.42 (0.9)	52,998 (2.0)	589.14 (1.9)	1,56,101 (3.7)	1,018.32 (5.0)	176,652 (5.4)
7. Finished Goods	711.06 (3.6)	144,000 (4.9)	236.11 (0.9)	33,655 (0.9)	739.87 (3.2)	126,354 (5.2)	341.89 (1.5)	69,825 (2.6)	359.09 (1.1)	87,910 (2.1)	920.03 (4.5)	203,097 (6.2)
8. Mineral Ores	15.00 (0.01)	920 (0.03)	27.37 (0.1)	4,548 (0.1)	–	–	43.98 (0.2)	11,762 (0.4)	128.03 (0.4)	22,246 (0.5)	66.95 (0.3)	6,857 (0.2)
9. Mineral Oils	159.31 (0.8)	12,161 (0.4)	1,128.83 (4.5)	210,906 (6.2)	494.68 (2.1)	32,113 (1.3)	94.90 (0.4)	69.65 (0.3)	212.30 (0.7)	10,014 (0.2)	998.55 (4.9)	1,09,621 (3.4)
10. Wood & Timber	2,297.33 (11.6)	411,257 (14.0)	973.00 (3.9)	1,05,906 (3.1)	223.78 (1.0)	17,065 (0.7)	812.93 (3.6)	63,580 (2.4)	949.29 (3.0)	1,27,273 (3.0)	621.39 (3.1)	48,306 (1.5)
	(11.6)	(14.0)	(3.9)	(3.1)	(1.0)	(0.7)	(3.6)	(2.4)	(3.0)	(3.0)	(3.1)	(1.5)
11. Sugar and Gur	291.15 (1.5)	27,910 (0.9)	4,822.16 (19.3)	8,14,830 (23.8)	2,293.30 (9.9)	3,56,713 (14.7)	6,830.98 (30.6)	6,05,180 (22.6)	183.00 (0.6)	17,353 (0.4)	211.38 (1.0)	23,774 (0.7)
12. Iron & Steel	1,074.47 (5.4)	132.566 (4.5)	1,083.55 (4.3)	1,35,013 (3.9)	762.89 (3.3)	73,255 (3.9)	860.97 (3.0)	1,51,011 (5.6)	852.02 (2.7)	1,69,017 (4.0)	1,693.84 (8.4)	2,86,830 (8.8)
13. Tobacco	29.46 (0.2)	3,610 (0.1)	276.69 (1.1)	51,404 (1.5)	79.82 (0.3)	22,556 (0.9)	148.89 (0.7)	49,398 (1.8)	133.58 (0.4)	41,123 (1.0)	92.84 (0.5)	42,869 (1.3)
14. Textiles	359.12 (1.8)	70,568 (2.4)	869.86 (3.5)	1,70,618 (5.0)	855.46 (3.7)	1,61,566 (6.7)	1,212.20 (5.4)	291,040 (10.9)	226.07 (0.7)	89,958 (2.1)	592.85 (2.9)	1,54,219 (4.7)
15. Miscellaneous	943.05 (4.8)	135,735 (4.6)	2,128.55 (8.5)	3,61,995 (10.6)	1,783.78 (7.7)	2,54,462 (10.5)	1,418.90 (6.4)	2,71,123 (10.1)	1,049.48 (3.3)	2,80,325 (6.6)	3,397.24 (16.8)	6,50,042 (19.9)
16. Building Materials	2,690.61 (13.6)	176,015 (6.0)	3,022.42 (12.1)	1,87,683 (5.5)	3,859.24 (16.6)	1,65,687 (6.8)	758.83 (3.4)	32,042 (1.2)	4,842.34 (15.3)	210,196 (4.9)	1,709.90 (8.5)	81,482 (2.5)
17. Others	1,232.21 (6.2)	152,386 (5.2)	2,577.77 (10.3)	3,30,671 (9.6)	1,995.07 (8.6)	1,79,922 (7.4)	2,833.70 (12.7)	3,77,520 (14.1)	13,104.47 (41.4)	17,36,277 (40.6)	5,862.85 (29.0)	12,39,031 (37.9)
TOTAL	19,764.44 (100.0)	29,41,169 (100.0)	25,022.70 (100.0)	34,33,244 (100.0)	23,230.86 (100.0)	24,28,516 (100.0)	22,294.09 (100.0)	26,76,767 (100.0)	31,610.58 (100.0)	42,70,464 (100.0)	20,228.11 (100.0)	3,263,987 (100.0)

ANNEXURE XIII (Contd.)

Commodities	Bombay–Bangalore		Bangalore–Bombay		Madras – Bangalore		Bangalore – Madras		Total for all Routes	
	Quantity Carried (Tons)	Total Ton-miles Performed	Quantity Carried (Tons)	Total Ton-miles Performed	Quantity Carried (Tons)	Total Ton-miles Performed	Quantity carried (Tons)	Total Ton-miles Performed	Grand Total of Quantity Carried (tons)	Grand Total Ton-miles Performed
	14	15	16	17	18	19	20	21	22	23
1. Foodgrains	2,489.96 (9.4)	3,46,238 (7.6)	1,910.60 (7.6)	1,94,693 (4.7)	737.80 (5.6)	96,081 (5.0)	624.88 (4.2)	62,197 (3.2)	21,373,96 (9.6)	20,62,677 (6.6)
2. Oilseeds	394.95 (1.5)	30,581 (0.9)	891.68 (3.5)	1,86,490 (4.5)	257.07 (2.0)	21,601 (1.1)	531.10 (3.6)	86,268 (4.4)	6,446.01 (2.9)	8,07,513 (2.6)
3. Cotton and Jute raw	535.51 (2.0)	1,51,372 (3.3)	981.24 (3.9)	2,51,037 (6.1)	187.63 (1.7)	47,898 (2.5)	280.38 (1.9)	78,556 (4.0)	6,648.57 (3.0)	14,77,851 (4.7)
4. Fruits and Vegetables	1,100.20 (4.1)	1,63,012 (3.6)	3,591.01 (14.3)	4,91,236 (11.8)	1,484.00 (11.3)	2,35,972 (12.3)	2,618.34 (17.6)	5,41,261 (27.7)	23,972.99 (10.8)	36,19,903 (11.5)
5. Other Agricultural Products	195.01 (0.7)	15,058 (0.3)	322.42 (1.3)	30,029 (0.7)	119.33 (0.9)	10,911 (0.6)	243.79 (1.6)	19,206 (1.0)	3,737.92 (1.7)	3,43,316 (1.1)
6. Provisions	1,107.43 (4.2)	2,23,421 (4.9)	2,093.66 (8.3)	5,58,814 (13.5)	528.28 (4.0)	1,07,309 (5.6)	494.67 (3.3)	1,01,574 (5.2)	10,091.11 (4.5)	21,31,394 (6.7)
7. Finished Goods	915.89 (3.4)	2,31,210 (5.2)	692.41 (2.7)	1,62,365 (3.9)	230.95 (1.8)	49,902 (2.6)	164.64 (1.10)	39,154 (1.8)	5,311.94 (2.4)	11,47,471 (3.6)
8. Mineral Ores	726.32 (2.7)	56,913 (1.2)	594.07 (2.4)	1,43,180 (3.5)	120.47 (0.9)	4,960 (0.3)	56.26 (0.4)	4,618 (0.2)	1,778.51 (0.8)	2,56,004 (0.8)
9. Mineral Oils	5,542.60 (20.9)	7,41,684 (16.3)	178.13 (0.7)	15,649 (0.4)	755.28 (5.7)	1,00,996 (5.3)	91.22 (0.6)	5,717 (0.3)	9,655.80 (4.3)	12,45,829 (3.9)
10. Wood & Timber	1,284.94 (4.8)	1,25,317 (2.8)	1,180.32 (4.7)	71,917 (1.7)	1,300.39 (9.9)	63,682 (3.3)	617.61 (4.1)	61,761 (3.7)	10,265.98 (4.6)	11,07,390 (3.5)
11. Sugar and Gur	819.69 (3.1)	1,02,446 (2.3)	1,727.01 (6.9)	2,71,612 (6.6)	339.19 (2.6)	55,252 (2.9)	269.03 (1.8)	73,087 (4.4)	17,786.89 (8.0)	23,02,297 (7.3)
12. Iron & Steel	1,257.88 (4.7)	2,60,710 (5.7)	537.15 (2.1)	72,976 (1.8)	394.86 (3.0)	79,864 (4.2)	170.60 (1.1)	29,286 (1.5)	8,688.21 (3.9)	13,90,518 (4.4)
13. Tobacco	35.00 (0.1)	6,330 (0.1)	114.78 (0.5)	45,686 (1.1)	122.98 (0.9)	24,902 (1.3)	413.00 (2.8)	85,489 (4.4)	1,447.04 (0.7)	3,73,367 (1.2)
14. Textiles	795.50 (3.0)	2,174,53 (4.8)	8282.94 (3.3)	2,81,581 (6.8)	594.66 (4.5)	1,40,803 (7.4)	358.21 (2.4)	72,536 (3.7)	6,692.87 (3.0)	16,50,342 (4.2)
15. Miscellaneous	5,731.68 (21.6)	13,16,068 (28.8)	3,228.05 (12.8)	7,82,686 (18.9)	2,436.10 (18.5)	4,64,284 (24.3)	2,117.70 (14.2)	3,97,360 (19.8)	24,234.53 (11.0)	49.04,080 (15.5)
16. Building Materials	870.56 (3.3)	85,452 (1.9)	3,377.75 (13.4)	87,476 (2.1)	1,262.46 (9.6)	60,433 (3.2)	4,224.22 (28.4)	1,01,731 (5.2)	26,620.82 (12.0)	11,88,197 (3.8)
17. Others	2,764.67 (10.4)	4,70,532 (10.3)	2,933.63 (11.6)	4,95,939 (12.0)	2,301.95 (17.5)	3,46,960 (18.1)	1,612.14 (10.8)	2,44,432 (12.5)	37,218.46 (16.8)	55,73,670 (17.6)
TOTAL	26,576.79 (100.0)	45,55,797 (100.0)	25,182.85 (100.0)	41,43,366 (100.0)	13,173.40 (100.0)	19,11,810 (100.0)	14,887.79 (100.0)	19,56,699 (100.0)	2,21,971.61 (100.0)	3,15,81,819 (100.0)

ANNEXURE XIV

Tonnage of Important Commodities Moved according to Different Distance Zones

(Figures in brackets indicate percentages to the total quantity moved)

Commodity	Route	Total Tonnage moved	Tonnage moving Beyond 25 miles	Beyond 50 miles	Beyond 75 miles	Beyond 100 miles	Beyond 150 miles	Beyond 200 miles	Beyond 300 miles	Beyond 500 miles	Beyond 1000 miles
1	2	3	4	5	6	7	8	9	10	11	12
Finished Goods	Calcutta-Patna	920.03	855.66 (93.0)	821.51 (89.3)	793.60 (86.6)	773.49 (84.1)	379.85 (41.3)	324.29 (35.3)	123.27 (13.5)	62.20 (6.9)	13.75 (1.5)
	Bombay-Bangalore	915.89	914.05 (99.8)	842.71 (92.0)	810.71 (88.5)	794.86 (86.8)	407.80 (44.5)	353.65 (38.6)	192.87 (21.1)	165.69 (18.1)	27.76 (3.0)
Sugar & Gur	Delhi-Kanpur	2,293.30	2,279.23 (99.4)	2,174.52 (94.8)	2,116.93 (92.3)	1,771.98 (77.3)	1,167.52 (50.9)	529.31 (23.1)	44.10 (1.9)	—	—
	Kanpur - Delhi	6,350.98	6,277.06 (91.9)	3,216.65 (47.1)	2,186.03 (32.0)	2,033.26 (29.8)	1,487.8 (21.8	1,043.66 (15.4)	109.83 (1.6)	7.16 (0.1)	—
	Bangalore - Bombay	1,727.01	1,649.52 (95.5)	1,501.99 (87.0)	1,467.36 (85.0)	1,307.71 (75.7)	773.6 (44.8	565.33 (32.7)	39.56 (2.3)	4.65 (0.3)	—
	Delhi - Amritsar	4,822.16	4,661.50 (96.7)	4,534.33 (94.0)	4,351.44 (89.8)	3,752.47 (77.8)	2,952.5 (61.2	1,817.05 (37.7)	15.96 (0.3)	—	—
Mineral Oil	Delhi - Amritsar	1,128.83	1,106.80 (98.0)	989.68 (87.7)	894.65 (79.3)	861.11 (76.3)	728.56 (64.5	579.38 (51.3)	15.61 (1.4)	—	—
	Bombay - Bangalore	5,542.60	5,521.46 (99.6)	5,099.38 (92.0)	4,890.34 (88.2)	4,819.64 (86.9)	1,060.4 (19.1	936.09 (16.9)	13.29 (0.2)	4.16 (0.1)	—
Wood & Timber	Amritsar - Delhi	2,297.33	2,280.06	2,065.23	1,919.01	1,822.12	1,250.0	938.92	33.98	—	—
Coal, Soft Coke etc.	Patna - Calcutta	11,746.68	11,689.98 (99.5)	11,486.72 (97.8)	10,178.18 (86.7)	9,456.92 (80.5)	901.4 (7.7)	11.00 (0.1)	4.00 (0.3)	—	—
	Calcutta - Patna	3,489.53	3,481.86 (99.8)	3,465.22 (99.3)	3,439.72 (98.6)	3,402.78 (97.5)	3,281.81 (94.0)	1,729.44 (49.6)	—	—	—
Textiles	Bangalore - Bombay	828.94	—	741.19 (89.4)	724.41 (87.4)	705.63 (85.1)	630.45 (76.9)	592.80 (71.5)	326.27 (39.4)	245.22 (29.6)	—
	Bombay - Bangalore	795.50	789.99 (99.3)	703.87 (88.5)	700.36 (88.0)	693.36 (87.2)	566.04 (71.2)	513.68 (64.6)	228.61 (28.7)	119.11 (15.0)	—
	Delhi - Kanpur	855.46	777.96 (90.9)	624.37 (73.0)	542.34 (63.4)	506.62 (59.2)	426.18 (49.8)	335.31 (39.3)	113.83 (13.3)	37.76 (4.4)	—
	Kanpur - Delhi	1,212.20	1,116.12 (92.8)	966.68 (80.4)	938.83 (78.1)	833.77 (69.4)	779.53 (64.8)	710.20 (59.1)	124.99 (10.4)	79.58 (6.6)	16.9 (1
Iron and Steel	Bombay - Bangalore	1,257.88	1,251.04 (99.5)	1,095.09 (87.1)	1,056.99 (84.0)	1,017.16 (80.9)	685.92 (53.4)	603.09 (47.9)	190.68 (15.2)	60.86 (4.8)	—
	Calcutta - Patna	1,693.84	1,589.85 (93.9)	1,460.01 (86.2)	1,397.10 (82.5)	1,387.82 (81.9)	396.14 (23.4)	338.13 (20.0)	200.16 (11.8)	52.46 (3.1)	—
Cotton and Jute raw	Bangalore - Bombay	981.24	978.52 (99.8)	887.45 (90.4)	867.60 (88.4)	857.70 (87.4)	684.15 (69.7)	630.94 (64.3)	278.87 (28.4)	75.03 (7.6)	—
	Amritsar - Delhi	1,148.33	1,117.07 (97.3)	1,036.95 (90.3)	971.55 (84.6)	900.60 (78.4)	774.24 (67.4)	357.70 (31.1)	26.15 (2.3)	6.87 (0.6)	—
	Delhi - Kanpur	1,749.90	1,405.67 (80.3)	1,293.00 (73.9)	1,263.29 (72.2)	1,225.42 (70.0)	1,128.76 (64.5)	977.28 (55.8)	263.00 (15.0)	150.38 (8.6)	—
Foodgrains	Delhi-Amritsar	2,782.91	2,625.96 (94.36)	2,021.97 (72.66)	1,727.51 (62.07)	1,310.28 (47.08)	421.24 (15.30)	229.96 (8.26)	7.53 (0.27)	—	—
	Amritsar - Delhi	2,823.16	2,629.32 (93.13)	2,145.35 (75.99)	1,373.89 (48.66)	1,112.52 (39.40)	558.83 (19.79)	365.75 (12.88)	—	—	—
	Delhi - Kanpur	2,890.58	2,254.04 (78.0)	1,010.03 (34.9)	629.32 (21.8)	550.23 (19.3)	302.65 (10.5)	151.63 (5.2)	0.37 (0.0)	0.37 (0.0)	—
	Kanpur - Delhi	1,413.70	1,238.88 (87.6)	1,058.48 (74.9)	957.91 (67.8)	794.06 (56.2)	450.40 (31.8)	213.20 (15.1)	7.35 (0.5)	—	—
	Patna - Calcutta	4,535.09	4,051.68 (93.00)	2,538.89 (58.72)	1,400.00 (32.50)	1,074.92 (24.80)	439.88 (10.15)	194.61 (4.49)	27.01 (0.60)	4.41 (0.1)	4.41 (0.
	Bombay - Bangalore	2,409.96	2,444.10	2,053.16	1,881.74	1,701.79	309.16	518.57	121.47	4.41	—

ANNEXURE XIV (Continued)

1	2	3	4	5	6	7	8	9	10	11	12
Provisions	Bangaloro - Bombay	2,003.66	2,087.04 (99.7)	1,959.53 (93.6)	1,830.27 (87.4)	1,719.53 (82.1)	1,303.36 (62.2)	1,208.77 (57.7)	744.97 (35.6)	212.37 (10.1)	- -
	Amritsar - Delhi	2,327.17	2,299.80 (98.82)	2,165.72 (93.06)	2,075.43 (89.18)	1,835.87 (78.89	1,625.34 (69.84)	1,242.91 (53.41)	104.75 (4.50)	27.95 (1.20)	- -
	Calcutta - Patna	1,018.32	968.83 (95.14)	856.20 (84.08)	735.60 (72.24)	697.44 (68.49)	338.22 (33.21)	279.05 (27.40)	173.52 (17.04)	34.01 (3.34)	- -
Fruits and Vegetables	Amritsar - Delhi	2,342.84	2,328.67 (99.40)	2,256.13 (96.30)	2,074.29 (88.54)	2,016.77 (86.09)	1,899.81 (81.09)	1,666.28 (71.12)	9.37 (0.40)	- -	- -
	Delhi - Amritsar	1,609.97	1,580.05 (98.14)	1,506.58 (93.58)	1,404.84 (87.25)	1,303.73 (80.98)	1,074.76 (66.76)	647.98 (40.25)	92.79 (5.76)	- -	- -
	Bangaloro - Bombay	3,591.01	3,567.52 (99.3)	3,031.40 (84.4)	2,926.39 (81.5)	2,710.87 (75.5)	1,011.81 (28.2)	630.30 (17.6)	143.66 (4.0)	33.31 (0.9)	- -
	Patna - Calcutta	3,867.45	3,746.99 (96.89)	3,334.38 (86.22)	3,116.25 (80.58)	3,005.35 (77.71)	2,630.00 (68.00)	1,265.15 (32.71)	732.94 (18.95)	65.32 (1.69)	4.62 (0.12)
	Delhi - Kanpur	3,254.91	3,212.29 (98.7)	1,891.87 (58.1)	1,238.47 (38.1)	533.15 (16.4)	288.13 (8.9)	135.17 (4.2)	48.16 (1.5)	7.68 (0.3)	- -
	Kanpur - Delhi	3,270.37	2,991.87 (91.5)	1,881.98 (57.5)	1,675.42 (51.2)	1,117.20 (34.2)	348.37 (10.7)	174.96 (5.3)	27.03 (0.8)	22.77 (0.7)	- -

ANNEXURE XV

Average Lead of Various Commodities on Different Routes

Commodities	Amritsar-Delhi	Delhi-Amritsar	Delhi-Kanpur	Kanpur-Delhi	Patna-Calcutta	Calcutta-Patna	Bombay-Bangalore	Bangalore-Bombay	Madras-Bangalore	Bangalore-Madras
1	2	3	4	5	6	7	8	9	10	11
1. Foodgrains	104.16	101.04	62.07	117.73	79.63	71.18	139.05	101.90	130.23	99.53
2. Oilseeds	146.79	125.92	618.63	92.17	277.36	60.82	100.22	209.14	84.03	162.43
3. Cotton and Jute Raw	172.19	121.97	232.87	219.00	402.27	106.23	282.67	255.84	255.28	280.18
4. Fruits and Vegetables	223.51	181.32	82.86	88.40	192.02	86.58	146.99	136.80	159.01	206.72
5. Sugarcane	57.97	70.27	13.06	13.04	104.16	201.01	53.23	114.28	30.45	86.90
6. Other Agricultural Products	100.58	82.00	41.54	21.91	158.91	67.45	77.22	93.14	91.44	78.78
7. Provisions	209.00	157.32	151.00	260.53	264.96	173.47	201.75	266.91	203.13	205.34
8. All live Animals	119.31	114.44	106.68	131.56	273.81	153.54	103.82	150.84	48.23	173.21
9. Raw Products of Animals	110.54	91.61	124.37	136.68	395.94	81.62	176.69	104.44	92.95	150.62
10. Milk and Milk Products	161.92	296.91	33.33	445.51	269.57	97.04	187.25	182.86	12.84	159.04
11. Finished Goods	205.92	142.54	170.78	204.23	244.81	220.75	255.72	234.49	216.07	213.52
12. Rubber and Rubber Products	49.07	215.51	232.92	366.24	447.77	621.88	419.13	496.48	196.21	216.16
13. Wooden Manufactured Goods	167.53	84.27	204.09	133.55	199.93	138.97	139.33	208.82	214.76	209.53
14. Glass Products	104.13	208.98	185.19	127.21	344.73	191.49	336.31	185.41	130.68	178.00
15. Leather and Leather Products	176.89	176.90	246.47	402.00	355.56	635.81	833.01	410.28	178.21	181.71
16. Coal	83.80	70.70	32.72	55.78	121.98	188.91	117.41	110.06	68.95	136.48
17. Mineral Ores	61.09	166.17	-	267.44	173.76	102.42	78.36	241.02	41.17	82.08
18. Building Material	65.37	62.10	42.93	422.26	43.40	47.65	98.16	258.98	47.87	24.08
19. Mineral Oils	76.34	106.84	64.92	73.39	47.17	109.78	133.82	87.85	133.72	62.67
20. Products of Forests	179.02	108.29	76.26	78.21	134.07	77.74	97.53	60.93	48.97	118.34
21. Sugar and Gur	95.86	168.98	155.55	88.59	94.83	107.74	124.98	157.27	162.89	104.92
22. Ghee and Vegetable Oils	127.02	142.91	77.20	108.39	210.83	211.38	151.53	230.75	241.28	241.72
23. Cement	29.95	93.61	21.37	32.03	106.59	110.62	57.68	63.01	155.50	174.27
24. Iron and Steel	123.37	124.60	96.02	175.40	198.37	169.34	207.26	135.86	202.26	171.66
25. Salt	182.07	161.82	36.00	40.68	173.12	157.58	105.52	75.90	154.22	40.23
26. Paper	129.82	183.67	190.83	146.29	158.84	168.38	134.88	214.87	120.88	54.41
27. Tea and Coffee	122.28	190.99	126.08	391.76	160.09	448.25	181.46	449.08	267.95	295.19
28. Tobacco	122.54	185.78	282.59	331.78	307.85	461.75	180.86	398.03	202.49	207.00
29. Manures	94.41	35.92	49.83	276.31	82.97	66.34	136.80	54.93	120.46	59.33
30. Textiles	196.50	196.14	188.86	242.09	397.92	260.13	273.35	339.69	236.78	202.50
31. Miscellaneous	143.93	170.07	142.25	191.08	267.11	191.34	229.61	242.46	190.58	182.92
Total Average Lead	148.81	137.21	104.54	120.07	135.10	161.36	171.42	164.53	145.13	131.43

Quantities moved by rail in respect of commodities which move in substantial quantities by road over distances exceeding 200 miles on some of the Survey routes

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(Quantity in Tons)

Commodities Routewise	1956-57	1957-58	1958-59	Percentage increase (+) or decrease (-) in 1957-58 over 1956-57	Percentage increase (+) or decrease (-) in 1958-59 over 1956-57	Percentage increase(+) or decrease (-) in 1958 over 1957-5
1	2	3	4	5	6	7
1. Amritsar - Delhi						
Sugar, Gur etc.	N.A.	11,046	3,011	-	-	(-) 69.4
Mineral Oils	N.A.	9,622	2,507	-	-	(-) 73.9
Wood and Timber	N.A.	15,670	3,036	-	-	(-) 80.6
Cotton and Jute Raw	N.A.	2,876	3,178	-	-	(-) 10.5
Foodgrains	N.A.	90,525	73,005	-	-	(-) 19.4
Fruits and Vegetables	N.A.	4,594	2,573	-	-	(-) 44.0
2. Delhi - Kanpur.						
Sugar and Gur etc.	N.A.	5,238	2,786	-	-	(-) 46.8
Cotton Manufactures	N.A.	1,839	2,191	-	-	(+) 19.1
Foodgrains	N.A.	69,953	1,79,780	-	-	(+)157.0
Fruits and Vegetables	N.A.	125	1,876	-	-	(+)1,500.8
3. Calcutta - Patna *						
Coal and Coke	14,65,520	17,09,319	14,39,206	(+) 16.6	(-) 1.8	(-) 15.9
Iron and Steel Wrought	12,015	30,589	40,929	(+)154.6	(+)240.6	(+) 33.8
Foodgrains	4,481	14,691	35,198	(+)227.8	(+)685.4	(+)139.6
4. Bombay - Bangalore						
Mineral Oils	42,559	10,031	37,05	(-) 76.4	(-) 13.0	(+)269.1
Cotton Manufactures	789	1,826	1,25	(+)131.5	(+) 59.2	(-) 31.2
Iron & Steel Wrought	25,167	43,997	32,32	(+) 74.8	(+) 28.4	(-) 26.5
Cotton and Jute Raw	4,394	7,368	2,35	(+) 67.7	(-) 46.5	(-) 68.1
Provisions	2,361	3,613	2,46	(+) 53.0	(+) 4.5	(-) 31.7
Foodgrains	69,893	91,266	78,86	(+) 30.5	(+) 12.8	(-) 13.6
Fruits and Vegetables	836	185	1,105	(-) 77.9	(+) 32.2	(+)496.7

* Excludes the figures for Calcutta - Gaya Section.

ANNEXURE XVII

Percentage share of rail and road in the movement of various groups of commodities on survey routes

Routes and Pairs of Stations	Products of Agriculture	Provision	Animals and Animal Products	Finished Products	Products of Mines	Products of Forests	Manufactures	All Others	Total
1	2	3	4	5	6	7	8	9	10
ritsar - Delhi Route									
3.11.59 to 29.11.59)									
Delhi to Amritsar									
By rail	62.8	-	1.8	9.6	9.5	-	3.1	6.2	15.1
By road	37.2	100.0	98.2	90.4	90.5	100.0	96.9	93.8	84.9
Amritsar to Delhi									
By rail	2.5	-	25.7	0.9	-	-	0.9	1.1	1.3
By road	97.5	100.0	74.3	99.1	-	100.0	99.1	98.9	98.7
Delhi to Pathankot									
7. By rail	-	-	-	15.4	8.8	50.0	1.1	8.5	4.2
By road	100.0	100.0	100.0	84.6	91.2	50.0	98.9	91.5	95.8
Pathankot to Delhi									
8. By rail	0.5	-	87.9	-	-	-	-	3.9	0.4
By road	99.5	100.0	12.1	100.0	-	100.0	100.0	96.1	99.6
9. Lhi - Kanpur Route									
5.12.59 to 22.12.59)									
10. Delhi to Kanpur									
6 By rail	1.2.	-	-	100.0	-	-	0.2	4.4	3.3
By road	98.8	-	-	-	100.0	-	99.8	95.6	96.7
III. Calcutta - Patna Route									
(5.1.60 to 11.1.60)									
7. Calcutta to Asansol									
By rail	88.3	-	-	3.2	3.4	-	3.4		
By road	11.7	100.0	-	96.8	96.6	100.0	96.6	-	3.1	6.2	15.1
8. Asansol to Calcutta								100.0	96.9	93.8	84.9
By rail	74.6	-	100.0	7.1	84.0	-	9.0				
By road	25.4	-	-	92.9	16.0	-	91.0				
9. Calcutta to Raniganj								-	0.9	1.1	1.3
By rail	0.6	-	100.0	1.9	-	-	1.1	100.0	99.1	98.9	98.7
By road	99.4	100.0	-	98.1	100.0	100.0	98.9				
10. Raniganj to Calcutta											
By rail	-	-	-	-	27.4	-	89.4	50.0	1.1	8.5	4.2
By road	100.0	-	-	-	72.6	100.0	10.6	50.0	98.9	91.5	95.8
IV. Bombay - Bangalore Route											
(11.2.60 to 17.2.60)											
11. Bombay-Bangalor								-	-	3.9	0.4
By rail	60.5	3.3	-	7.9	-	100.0	10.1	100.0	100.0	96.1	99.6
By road	39.5	96.7	-	92.1	100.0	-	89.9				
12. Bangalore-Bombay											
By rail	-	-	100.0	3.8	100.0	-	4.4				
By road	100.0	100.0	-	96.2	-	-	95.6				
13. Bombay-Sholapur											
By rail	66.2	-	-	19.1	-	20.3	7.7	-	0.2	4.4	3.3
By road	33.8	100.0	-	80.9	-	79.7	92.3	-	99.8	95.6	96.7

ANNEXURE XVII (Contd)

1	2	3	4	5	6	7	8	9
14. Sholapur-Bombay								
By rail	10.7	-	100.0	100.0	-	44.1	2.8	1.5
By road	89.3	100.0	-	-	-	55.9	97.2	98.5
15. Bombay-Kolhapur								
By rail	74.2	-	-	4.4	-	23.0	80.4	0.8
By road	25.8	100.0	-	95.6	100.0	77.0	19.6	99.2
16. Kolhapur-Bombay								
By rail	-	-	-	-	-		0.2	0.1
By road	100.0	100.0	-	100.0	100.0	100.0	99.8	99.9
V. Madras-Bangaloro Route (9.3.60 to 15.3.60)								
17. Madras-Bangalore								
By rail	97.7	-	-	100.0	-	91.3	54.7	5.7
By road	2.3	100.0	100.0	-	100.0	8.7	45.3	94.3
18. Bangalore-Madras								
By rail	42.8	-	22.2	100.0	-	97.6	22.9	4.5
By road	57.2	100.0	77.8	-	100.0	2.4	77.1	95.5
19. Madras-Vellore								
By rail	-	-	-	100.0	-	30.9	33.5	3.1
By road	100.0	100.0	100.0	-	100.0	69.1	66.5	96.9
20. Vellore-Madras								
By rail	-	-	-	100.0	-	-	0.7	0.7
By road	100.0	100.0	100.0	-	100.0	-	99.3	99.3

Note: Percentage share of road is based on the figures obtained from the Goods Traffic Survey and that of rail on the figures supplied by the Railway Board.

ANNEXURE XVIII

Movement of commodities by rail and road between selected pairs of stations on Amritsar-Delhi Route during the period 23.11.59 to 29.11.59.

(Figures in Tons)

Commodity	Delhi to Amritsar					Amritsar to Delhi				
	By rail	By road	Total	Percentage share by rail	Percentage share by road	By rail	By road	Total	Percentage share by rail	Percentage share by road
1	2	3	4	5	6.	7	8	9.	10.	11
Products of Agriculture	148.75	88.25	237.00	62.8	37.2	13.92	549.26	563.18	2.5	97.5
Provisions	Nil	138.04	138.04	Nil	100.0	-	601.81	601.81	Nil	100.0
Animals and Animal Products	0.04	2.20	2.24	1.8	98.2	0.52	1.50	2.02	25.7	74.3
Finished Goods	2.09	19.69	21.78	9.6	90.4	0.22	24.06	24.28	0.9	99.1
Products of Mines	15.61	149.03	164.64	9.5	90.5	Nil	Nil	-	-	-
Products of Forests	Nil	7.82	7.82	Nil	100.0	Nil	0.18	0.18	Nil	100.0
Manufactures	12.38	382.28	394.66	3.1	96.9	0.62	67.12	67.74	0.9	99.1
All others	23.07	347.95	371.02	6.2	93.8	0.81	71.86	72.67	1.1	98.9
Total:-	201.94	1,135.26	1,337.20	15.1	84.9	16.09	1,315.50	1,331.59	1.2	98.8
	Delhi to Pathankot					Pathankot to Delhi				
Products of Agriculture	Nil	197.85	197.85	Nil	100.0	2.50	471.76	474.26	0.5	99
Provisions	Nil	57.26	57.26	Nil	100.0	Nil	312.14	312.14	-	100.
Animals and Animal Products	Nil	5.51	5.51	Nil	100.0	0.51	0.07	0.58	87.9	12.
Finished Goods	1.40	7.70	9.10	15.4	84.6	Nil	25.00	25.00	-	100.
Products of Mines	18.70	193.82	212.52	8.8	91.2	Nil	Nil	Nil	Nil	Ni
Products of Forests	0.18	0.18	0.36	50.0	50.0	-	577.18	577.18	-	100.
Manufactures	2.68	241.98	244.66	1.1	98.9	Nil	1.94	1.94	-	100.
All others	15.36	165.81	181.17	8.5	91.5	2.50	61.90	64.40	3.9	96.
Total:-	38.32	870.11	908.43	4.2	95.8	5.51	1,449.99	1,455.50	0.4	99.

Note: Figures of movement by road have been taken from the Goods Traffic Survey on the route held from 23.11.59 to 30.11.59.

ANNEXURE XIX

Movement of Commodities by rail and road between selected pairs of stations on Delhi-Kanpur Route during the period 16.12.59 to 22.12.59.

(Figures in Tons)

Commodity	Delhi to Kanpur					Kanpur to Delhi				
	By rail	By road	Total	Percentage share by rail	Percentage share by road	By rail	By road	Total	Percentage share by rail	Percentage share by road
1	2	3	4	5	6	7	8	9	10	11
Products of Agriculture	0.81	66.79	67.60	1.2	98.8	Nil	198.37	198.37	-	100.0
Finished Goods	5.11	Nil	5.11	100.0	Nil	1.88	Nil	1.88	100.0	-
Products of Mines	Nil	18.00	18.00	Nil	100.0	Nil	Nil	Nil	-	-
Manufactures	0.51	205.42	205.93	0.2	99.8	1.18	515.59	516.77	0.2	99.8
All others	14.29	314.82	329.11	4.4	95.6	0.51	547.17	547.68	0.1	99.9
Total:	20.72	605.03	625.75	3.3	96.7	3.57	1261.13	1264.70	0.3	99.7

Note: Figures of movement by road have been taken from the Goods Traffic Survey on the route held from 16.12.59 to 23.12.59.

ANNEXURE XX

Movement of commodities by rail and road between selected pairs of stations on Calcutta-Katni Route during the period 5.1.60 to 11.1.60.

(Figures i

Commodity	Calcutta to Asansol					Asansol to Calcutta			
	By rail	By road	Total	Percentage share by rail	Percentage share by road	By rail	By road	Total	Percentage share by rail
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Products of Agriculture	474.36	63.05	537.41	88.3	11.7	16.16	5.51	21.67	74.6
Foodgrains	474.36	26.38	500.74	94.7	5.3	16.16	5.51	21.67	74.6
Fresh Fruits and Vegetables	Nil	36.37	36.67	–	100.0	Nil	Nil	–	–
2. Provisions	Nil	35.59	35.59	–	100.0	–	–	–	–
3. Animals and Animal Products	–	–	–	–	–	0.36	Nil	0.36	100.0
Livestock	–	–	–	–	–	0.36	Nil	0.36	100.0
4. Finished Goods	4.59	139.48	144.07	3.2	96.8	1.77	23.03	24.80	7.1
5. Products of Mines:	6.94	194.95	201.89	3.4	96.6	2,718.03	516.33	3,234.36	84.0
Coal & Coke	Nil	3.67	3.67	–	100.0	2,694.00	505.34	3,199.34	84.2
Building Material	Nil	6.80	6.80	–	100.0	Nil	Nil	–	–
Bitumen (asphalt)	5.47	Nil	5.47	100.0	–	Nil	Nil	–	–
Sand	Nil	Nil	Nil	–	–	24.03	Nil	24.03	100.0
Mineral oils	1.47	184.48	185.95	0.8	99.2	Nil	10.99	10.99	–
Products of Forests	0.70	18.01	18.71	3.7	96.3	Nil	Nil	–	–
Manufactures	5.47	156.52	161.99	3.4	96.6	3.97	40.17	44.14	9.0
All others	0.33	490.94	491.27	0.1	99.9	19.84	134.62	154.46	12.8
6. Products of Forests	0.70	18.01	18.71	3.7	96.3	Nil	Nil	–	–
7. Manufactures	5.47	156.52	161.99	3.4	96.6	3.97	40.17	44.14	9.0
8. All others	0.33	490.94	491.27	0.1	99.9	19.84	134.62	154.46	12.8
Total:-	492.39	1,098.54	1,590.93	31.0	69.0	2,760.13	719.66	3,479.79	79.3

Note:- Figures of movement by road have been taken from the Goods Traffic Survey on the route held from 5.1.60 to 12.1.60.

ANNEXURE XX -- Contd---

(Figures in Tons)

	Calcutta to Raniganj					Raniganj to Calcutta				
1	2	3	4	5	6	7	8	9	10	11
1. Products of Agriculture	0.73	112.44	113.17	0.6	99.4	Nil	18.43	18.43	-	100.0
Foodgrains	Nil	56.83	56.83	-	100.0	-	-	-	-	-
Jute Twine	0.73	Nil	0.73	100.0	-	-	-	-	-	-
Fresh Fruits and Vegetables	Nil	55.61	55.61	-	100.0	-	18.43	18.43	-	100.0
2. Provisions	Nil	41.25	41.25	-	100.0	Nil	Nil	Nil	-	-
3. Animals and Animal Products	0.11	Nil	0.11	100.0	-	-	-	-	-	-
4. Finished Goods	0.59	29.89	30.48	1.9	98.1	-	-	-	-	-
5. Products of Mines	Nil	36.53	36.53	-	100.0	1,442.00	3,820.10	5,262.10	27.4	72.6
Coal and Coke	-	Nil	-	-	-	1,442.00	3,802.59	5,244.59	27.5	72.5
Building Material	-	24.53	24.53	-	100.0	Nil	17.51	17.51	-	100.0
Mineral Oils	-	12.00	12.00	-	100.0	-	-	-	-	-
6. Products of Forests	Nil	14.71	14.71	100.0	-	-	10.00	10.00	-	100.0
7. Manufactures	1.14	101.48	102.62	1.1	98.9	120.50	14.24	134.74	89.4	10.6
Paper	0.84	Nil	0.84	100.0	-	120.50	Nil	120.50	100.0	-
Cigaratte	0.11	Nil	0.11	100.0	-	-	-	-	-	-
Iron and Steel	0.19	84.95	85.14	0.2	99.8	Nil	11.24	11.24	-	100.0
Textiles	Nil	16.53	16.53	-	100.0	Nil	3.00	3.00	-	100.0
8. All Others	0.18	350.78	350.96	0.1	99.9	0.84	35.09	35.93	2.3	97.7
TOTAL	2.75	687.08	689.83	0.4	99.6	1563.34	3,897.86	5,461.20	28.6	71.4

Note: Figures of movement by road have been taken from the Goods Traffic Survey on the route held from 5.1.60 to 12.1.60.

ANNEXURE XXI

Movement of commodities by rail and road between selected pairs of stations on Bombay-Bangalore route during the period 11.2.1960 to 17.2.1960.

(Figures in Tons)

Commodities	Bombay to Bangalore					Bangalore to Bombay				
	By rail	By road	Total	Percentage share of rail	Percentage share of road	By rail	By road	Total	Percentage share of rail	Percentage share of road
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	
Products of Agriculture	60.98	39.84	100.82	60.5	39.5	Nil	95.60	95.60	—	
Provisions	2.50	72.67	75.17	3.3	96.7	Nil	121.80	121.80	—	
Animals and Animal Products	—	—	—	—	—	1.73	—	1.73	100.0	
Finished Goods	9.08	115.82	125.70	7.9	92.1	3.63	91.00	94.63	3.8	
Products of Forests	Nil	4.70	4.70	—	100.0	1.07	—	1.07	100.0	
Manufactures	16.86	149.83	166.69	10.1	89.9	11.53	254.02	265.55	4.3	
Iron and Steel	10.10	42.99	53.09	19.0	81.0	0 07	15.91	15.98	0.4	
Paper	1.62	—	1.62	100.0	—	1.69	Nil	1.69	100.0	
Textiles	5.14	106.84	111.98	4.6	95.4	9.77	233.48	243.25	4.0	
Sugar and Khandsari	—	—	—	—	—	Nil	4.63	4.63	—	
Mineral Oils	34.57	Nil	34.57	100.0	—	—	—	—	—	
All others	69.80	838.72	908.52	7.7	92.3	3.42	746.91	750.33	0.5	
TOTAL:-	194.59	1.221.58	1.416.17	13.7	86.3	21.38	1.309.33	1.330.71	1.6	

	Bombay to Sholapur					Sholapur to Bombay			
Products of Agriculture	295.70	151.18	446.88	66.2	33.8	35.96	299.16	335.12	10.7
Provision	Nil	49.02	49.02	—	100.0	Nil	134.85	134.85	—
Animals and Animal Products	—	—	—	—	—	95.30	Nil	95.30	100.0
Finished Goods	6.91	29.23	36.14	19.1	80.9	0.96	Nil	0.96	100.0
Products of Mines	88.54	348.52	437.06	20.3	79.7	2.09	2.65	4.74	44.1
Mineral Oils	88.54	347.05	435.59	20.3	79.7	2.09	2.65	4.74	44.1
Building Materials	Nil	1.47	1.47	—	100.0	—	—	—	—
Manufactures	22.97	274.80	297.77	7.7	92.3	4.22	144.38	148.60	2.8
Paper	0.81	Nil	0.81	100.0	—	—	—	—	—
Coffee	0.04	Nil	0.04	100.0	—	—	—	—	—
Cigarates	0.04	Nil	0.04	100.0	—	—	—	—	—
Textiles	0.07	123.63	123.70	0.1	99.9	4.22	120.76	124.98	3.4
Manures	22.01	Nil	22.01	100.0	—	—	—	—	—
Iron and Steel	Nil	146.76	146.76	—	100.0	Nil	9.37	9.37	—
Sugar and Gur	Nil	4.41	4.41	—	100.0	Nil	14.25	14.25	—
All others	3.89	371.82	375.71	1.0	99.0	2.98	192.50	194.48	1.5
Total:	418.01	1.224.57	1.642.58	25.5	74.5	141.51	773.54	915.05	15-5

Note:- Figures of movement by road have been taken from the Goods Traffic Survey on the route held from 11.2.60 to 18.2.60.

ANNEXURE XXI (Cont)

(Figures in Tons)

	Bombay to Kolhapur					Kolhapur to Bombay				
1.	2	3	4	5		7	8	9	10	11
Products of Agriculture	233.17	81.08	314.25	74.2	258	Nil	101.26	101.26	-	100.0
Provisions	Nil	71.69	71.69	-	1000	Nil	68.35	68.35	-	100.0
Finished Goods	2.64	57.07	59.71	4.4	956	Nil	33.37	33.37	-	100.0
Products of Mines	54.08	181.14	235.22	23.0	770	Nil	0.45	0.45	-	100.0
Mineral Oils	54.08	166.64	220.72	24.5	755	-	0.45	0.45	-	100.0
Building Materials	Nil	14.50	14.50	-	1000	-	-	-	-	-
Products of Forests	Nil	0.29	0.29	-	1000	Nil	5.14	5.14	-	100.0
Manufactures	898.72	218.56	1,117.28	80.4	196	0.40	242.83	243.23	0.2	99.8
Iron & Steel	20.94	141.82	162.76	12.9	87.1	Nil	4.77	4.77	-	100.0
Manures	877.78	Nil	877.78	100.0	-	-	-	-	-	-
Tea, Coffee etc.	-	-	-	-	-	0.40	Nil	0.40	100.0	-
Textiles	Nil	76.74	76.74	-	1000	-	18.98	18.98	-	100.0
Sugar and Gur	-	-	-	-		Nil	219.08	219.08	-	100.0
All others	3.45	442.68	446.13	0.8	196.2	0.22	246.09	246.31	0.1	99.9
Total:-	1,192.06	1,052.51	2,244.57	53.1	.9	0.62	697.49	698.11	0.1	99.9

Note:- Figures of movement by road have been taken from the Goods Traffic Survey on the route held from 11.2.60 to 18.2.60.

ANNEXURE XXII

Movement of Commodities by Rail and Road between selected pairs of stations on Madras-Bangalore route during the period 9.2.1960 to 15.2.1960.

(Figures in

Commodities	Madras to Bangalore					Bangalore to Madras				
	By rail	By road	Total	Percentage share of rail	Percentage share of road	By rail	By road	Total	Percentage share of rail	Percentage share of road
1	2	3	4	5	6	7	8	9	10	11
1. Products of Agriculture	1,749.74	41.00	1,790.74	97.7	2.3	107.75	143.98	251.73	42.8	2.
2. Provisions	Nil	49.84	49.84	—	100.0	Nil	24.00	24.00	—	100.
3. Animals and Animal Products	Nil	6.50	6.50	—	100.0	14.81	52.00	66.81	22.2	100.
4. Finished Goods	16.53	Nil	16.53	100.0	—	2.30	Nil	2.38	100.0	—
5. Products of Forests	—	6.50	6.50	—	100.0	Nil	2.50	2.50	—	100.
6. Products of Mines	2,163.08	205.28	2,368.36	91.3	8.7	1,506.52	38.50	1,625.02	97.6	8.
Coal and Coke	241.55	Nil	247.55	100.0	—	Nil	22.50	22.50	—	—
Mineral Oils	Nil	—	—	—	—	1,586.52	—	1,586.52	100.0	—
Mineral Oils	1,930.39	193.28	2,113.67	90.8	9.2	Nil	14.00	14.00	—	91.2
Building Material	1.14	12.00	13.14	8.7	91.3	Nil	12.00	14.00	—	91.2
7. Manufactures	280.74	232.68	513.39	54.7	45.3	56.98	191.48	248.46	22.9	45.
Iron and Steel	290.27	82.50	362.77	77.2	22.8	53.77	65.00	97.77	55.5	22.
Paper and Cardboard	0.44	Nil	0.44	100.0	—	—	—	—	—	—
Manures of all kinds	—	—	—	—	—	23.00	Nil	23.00	100.0	—
Ghee and Vegetable Oils	—	—	—	—	—	1.21	Nil	Nil	100.0	—
Salt	Nil	30.50	30.50	—	100.0	Nil	—	—	—	100.
Textiles	Nil	74.43	74.43	—	100.0	Nil	87.99	87.99	—	100.
Sugar and Khandsari	—	—	—	—	—	Nil	5.00	5.00	—	—
Tobacco Manufactures	Nil	45.25	—	—	100.0	Nil	33.49	33.49	—	100.
8. All others	49.34	812.22	861.56	5.7	94.3	52.59	697.15	729.74	4.5	94.
Total:—	4,259.46	1,354.02	5,613.42	75.9	24.1	1,801.03	1149.61	2950.64	61.0	39.

	Madras to Vellore					Vellore to Madras				
1. Products of Agriculture	Nil	107.25	107.25	—	100.0	Nil	126.92	126.92	—	100
2. Provisions	Nil	51.25	51.25	—	100.0	Nil	5.50	5.50	—	100
3. Products of Forests	Nil	67.75	67.75	—	100.0	Nil	15.00	15.00	—	100
4. Finished Products	3.38	Nil	3.38	100.0	—	0.88	Nil	0.88	100.0	—
5. Products of Animals	Nil	13.00	13.00	—	100.0	Nil	11.00	11.00	—	100
6. Products of Mines	22.48	50.21	72.69	30.9	69.1	—	—	—	—	—
Coke & Coal	Nil	6.50	6.50	—	100.0	—	—	—	—	—
Building Material	Nil	20.75	20.75	—	100.0	—	—	—	—	—
Mineral Oils	22.48	22.96	45.44	49.5	50.5	—	—	—	—	—
7. Manufactures	63.38	125.79	189.12	33.5	66.5	0.81	122.50	123.31	0.7	99
Iron & Steel	61.79	58.75	120.54	51.3	48.7	Nil	1.00	1.00	—	100
Salt	Nil	51.25	51.25	—	100.0	Nil	15.50	15.50	—	100
Tobacco Manufactures	Nil	4.04	4.04	—	100.0	Nil	—	—	—	—
Textiles	1.14	31.75	32.89	3.5	96.5	0.81	Nil	0.81	100.0	—
Sugar & Khandsari	—	—	—	—	—	Nil	106.00	106.00	—	100
Paper & Card Board	0.40	Nil	0.40	100.0	—	—	—	—	—	—
8. All others	5.70	177.72	183.42	3.1	96.9	0.77	109.50	110.27	0.7	99
Total:—	24.89	592.97	687.86	13.8	86.2	2.46	390.42	392.88	0.6	99

Note:— Figures of movement by road have been taken from the Goods Traffic Survey on the route held from 9.2.1960 to 16.2.1960.